THE

# WESTERN QUARTERLY REVIEW.

APRIL, 1849.

## Art. XVI.—THE REVOLUTION OF 1688 AND MACAULAY'S HISTORY.

It has been thoughtfully said that God writes all history. We would, without irreverence, add that His characters require the fire of human genius to bring them out into intelligent view. God has been the author of but one volume directly; but even in that sacred book, His directness sought a medium through human language. The eye of reason can see in every incident—every vicissitude—every mutation—every revolution—His hand inscribing the tablets of time, and writing the history of mankind.

In the world's history there are marked crises. Some eras—like our own, the eventful 1848, *annus mirabilis*—are replete with momentous events. The study of political and social science, becomes not only elegant and useful, but indispensable, in an era like ours. In France, more than in any other country, has history received the baptism of science. M. Compte and M. Guizot have applied their searching analysis; the former with rigid, yet somewhat speculative scrutiny; the latter with comprehensive grasp and practical results. It is however in our country, that the world must find that *actual* refinement in civil polity and social order, which others are aspiring to reach. In revolutionary eras we can best study history, as in the throes of passion we can best decipher character. Then disguises are cast off. Then, the "ugly vizors" which hide the features of our common humanity, are thrown aside to rust among the relics of barbarism. Then, the inherent lust for power and impatience of restraint burst forth in all their wantonness and rage with all their blindness. Then, long silent thoughts

reach their climax in indignant remonstrance. Then, those long muttering principles which are the motives of irrepressible energy in the masses, find bold enunciations and unambiguous exposition. Then, the clouds

> —— which hide the mental mountains
> Rising nighest heaven, are full of finest lightning;

and a breath suffices to give them power to strike and illumine, to devastate and purify. They are superficial tales, whose relation affects us as a village story on a grand scale. The capital defect in most of our historians, except Bancroft, Arnold and Macaulay, is, that in their works we do not find reason as well as reading, morals as well as dates, motives analysed as well as pageants described, principles investigated in the light of causes, as well as battles fought and kings dethroned.

When we remember that there is a universal mind, and that history can only record that mind, we marvel that historians have not written more for and of its operation. Every fact in history is but its husk. Every event hath an antecedent thought; and if we think of it, every thought lies embosomed in some central germ. "The creation of a thousand forests is in one acorn; and Egypt, Greece, Rome, Britain, America lie folded already in the first man." We have by virtue of our humanity, the secret spring of all revolutions. With a few unessential differences, we in America can become the Parisians of last February (1848)—the Exclusionists of 1680, or the Revolutionists of 1688. Thucydides did not fail, even in his day, to remark, that although political transactions varied from time to time in their external form and in the degree of the operation of principles; yet, that so long as human nature remained the same, the experience of one age would or should become the instruction of another. An example is for all time. The world is moved by exemplary mind. Not that history should become exclusively subjective. It should not be merged in biography. But there is a necessity for moral and metaphysical study in its pursuit. It must not be skimmed over to the fixation of principles. Human affairs can have but two types—the one is the circle, the other the trajectory; the one ending in itself, the other not returning into itself; the one a perpetual recurrence of the same series

in an unvarying order; the other—onward progress. Which type is the favorite of Macaulay he himself illustrates as truly in his work as in his words, when he says in his second volume, in summing up his third chapter: "The general effect of the evidence which has been submitted to the reader seems hardly to admit of a doubt; yet in spite of evidence, many will still image to themselves the England of the Stuarts as a more pleasant country than the England in which we live. It may at first sight seem strange that society, while constantly moving forward with eager speed, should be constantly looking backward with tender regret. But these two propensities, inconsistent as they may appear, can easily be resolved into the same principle. Both spring from an impatience of the state in which we actually are. That impatience while it stimulates us to surpass preceding generations disposes us to overrate their happiness. It is in some sense inexcusable and ungrateful in us to be constantly discontented with a condition that is certainly improving. But, in truth, there is constant improvement, precisely because there is constant discontent. If we were perfectly satisfied with the present, we should cease to contrive, to labor and to save with a view to the future. And it is natural that being dissatisfied with the present, we should form a too favorable estimate of the past.

"In truth we are under a deception similar to that which misleads the traveler in the Arabian desert. Beneath the caravan all is dry and bare; but far in advance, and far in the rear, is the semblance of refreshing waters. The pilgrims hasten forward and find nothing but sand, where an hour before they had seen a lake; they turn their eyes, and see a lake, where an hour before, they were toiling through sand. A similar illusion seems to haunt nations through every stage of their long progress from poverty and barbarism to the highest degree of opulence and civilization. But if we resolutely chase the mirage backward, we shall find it recede before us into the regions of fabulous antiquity. We too shall in our turn be outstripped and in our turn be envied. It may be in the twentieth century the mode to assert that the increase of wealth and the progress of science have benefitted the few at the expense of the many, and to talk of the reign of Queen Victoria, as the time when England was truly merry England, when all classes were bound

together by brotherly sympathy, when the rich did not grind the faces of the poor, and the poor did not envy the splendor of the rich."

Looking upon human society with this enlarged and elevated view, and minutely illustrating the idea of progressiveness by home pictures and convincing figures, Macaulay performs the noblest duty of a historian. He chronicles the progressive states and increasing dignity of our kind. This recognition of successive events under a fixed law, gives the precision of sciences to history. Vico, the author of the *Scienza Nuova*, pursued this method, but he chose the opposite type. He conceived the phenomena of human society revolving in an orbit. They appeared to him as the reflections of the heavenly phenomena—a periodical series of changes, and a periodical recurrence of the same series. But better had Vico failed in reaching the right result, than to have abstained from his scientific view of history. Already in France and Germany the most enlightened minds have aimed to connect their theories with the facts of universal history. In England, it is beginning to be acknowledged that no social doctrine is of any value, unless it can explain history, and that a science of history is the representation of the progressiveness of human society. In America, there is a looseness and incoherency in the study of history that is lamentable. To understand history—to generalize its facts—to determine the comparative importance and significance of certain facts—to properly weigh the evidence as to the existence of facts asserted—and to apply them to noble and useful purposes, require a knowledge of the elements of mind and morals, and a sort of power of contemporaneousness, in which few can equal—none surpass Thomas Babbington Macaulay.

If we would properly understand and retentively remember the history of Macaulay, we must view him as the recorder of English progressiveness. This progressiveness is the result of collision between two antagonistic elements of society, that never can be eradicated. If we would read the history of English wrongs and English rights, we must strike between the parallels—*prerogative and privilege*. Every event worth recording may be strung on this one thread—the privileges of the ruled represented by the parliment (and sometimes by the King,) and the prerogative of

the ruler represented by the crown. Every grievance and every redress, every act of tyranny and every step of popular influence may be classified under this one head—may be accounted for or justified by reference to the operation of this jealousy of the King for his prerogative and of the people for their privilege.

If there is one crowning excellence in Macaulay's history it is, that he is the historian of the people. Hume was the historian of a faction. Gibbon tells the history of oligarchies. The people—the masses have been neglected by both. We shall never forget the pleasant shock we felt in meeting a solitary monument to popular will, which Gibbon erected amidst the regalities and elegances, splendors and pomp of Roman power. After Maximus and Balbinus were chosen emperors by the Senate, the people who loved them not, surrendered the temple Jupiter, and "with obstinate clamors asserted their *inherent right to the election of their Sovereign*." Gibbon, like Hume, had not mingled with the mass of men. He had no sympathy with them. Fastidious and elegant scholars, are prone to be enamored of the courtly and polite—the diadem and laurel. In describing privileged elegancies, they forgot the harsh sufferings of the middle or under classes. But here, in this neglected spot, is Macaulay supreme. The masses of England have long been waiting for an historian; and they have found one, who though at home in the palace and in the camp, is yet domesticated in the hovel and in the cellar. Lord Jeffrey has a chapter on the delusive and imperfect suggestions of authentic history which Mr. Macaulay has doubtless well understood. "How very few" he says, "of the real scenes of humble life—of love—of hatred—of all the scenes that "gild the calm current of domestic bliss," are found on the page of history. Men court and marry very nearly as much in a season of war, as of peace, are as merry at weddings and christenings; as gallant at balls and races; as busy in their studies and counting houses; eat as heartily and sleep as sound; prattle with their children as pleasantly; till their plantations and scold their servants as zealously, as if their contemporaries were not furnishing materials thus abundantly for the tragic muse of history." It is precisely this want in history, which Macaulay has supplied. Instead of detracting from the dignity of the sober maid who hath history under her

especial charge, he gives her flesh and blood, and life with its useful activities. He becomes contemporary with all and familiarly acquainted with their daily walk and conversation. He makes what is most useful, the most agreeable by his manner. He wastes not our time in "ingenious idleness," or what Bolingbroke calls that knowledge which is a creditable kind of ignorance. Without Hume's appearance of candor, he has its reality. Without Gibbon's stilting philosophy, he is soundly and firmly philisophical. Without any affectation of dignity, he never, in the meanest scenes, loses a single ray of that dignity which is based on humility and sympathy. He is eminently social and unguardedly accessible; yet no one trifles with the privilege. In our review, we can scarcely hope to indicate his merits, much less to quote from his pages. It is only from perusal that we can appreciate the refinements of his language and the magic of his style. Every page has some marked peculiarity, showing the clearness, vigor and classic elegance of his composition. Every sentence hath its point, from which leaps, in dazzling power, the fire of his rhetoric and the force of his logic. His capital defect is that which would be the excellence of others. He enkindles enthusiasm, and without giving the understanding time to ponder his conclusions, hurries us along at a brisk gallop, to the end of the volume. It is hard to analyse him. "Well skilled in analysis himself, he plays the Proteus." Now he is under the witchery of a domestic story; now aloft on a bold generalization; now revelling in regal magnificence; now under a hedge with the hunted rebel; but every where holding his own way. Who dare stop him? Is it statistics? He puts M'Cullough to the blush. Biography? Boswell trembles for his laurels. Political economy? Shades of Smith, Say and Ricardo, beware. Poetry? Percy must dive deeper into the twilight of song, and Johnson must roll heavier sentences in his "Lives of the Poets." Philosophy? Whewell and Mill must study his directness and emulate his transparency. Is it wit, metaphysics, intrigue, kingcraft, fine arts, politics? Congreve, Berkley, Sunderland, James I., Reynolds and Halifax, will find in him a contemporary and a rival. In all he undertakes, there is a completeness. He leaves no fragments. He exhausts the subject, even in its detail, and that too without wearying. He is copious yet every sentence tells one thing.

He fires no random shots. Every aim hath its man. His tone in politics, as we shall see, is regulated by calm moderation and unmuffled judgment. The critic of the Edinburgh is lost in the earnest candor of the historian. His aptness of illustration, his facile brilliancy, his epigramatic sharpness, and now and then, impassioned eloquence are here. In this style and temper is his history conceived. If we would know the power of his intellect, how he reaches out to the ends of the earth and through remote durations of time; how he paints the glooms and lights of life, yet ever leaning toward the hopeful side of human nature; how he brushes aside the silly dreamer and tearful croaker over the social state; how he groups admitted facts, and draws unexpected conclusions with a dash as startling as his reasoning is cogent; how in geography he travels closely after Sir Thomas Browne, and in classic lore, after Gibbon; how his knowledge of language, the songs of the era, the fables of antiquity, the architectural monuments contribute to enrich his historic page—can only be seen by perusal. His searching eye is every where—whether in the hovel of the boor, the alehouse of the rowdy, the palace of the Stuarts, the hall of Parliament; whether in the army or navy, in the forests or fields, in the mines or workshops, in the baronial hall, or amidst the cutlery of Sheffield, the hardware of Birmingham, the ships and docks of Liverpool, the parlors and garrets of Bath, the gay saloons and banqueting halls of the merchant princes of London, with their armorial bearings and sculptured elegance, or amidst the magnificence of royal peagants and civic entertainments; now in the coffee house with Dryden in the chair; now "hail fellow," with the robbers of the time; now attending to female education; now regulating the post office and the newspapers; and, amidst all, never forgetting the laborer and the bread, beer, and scanty comforts which relieve the dark picture of the mass of English society.

He is no superficial observer either, no mere describer of outward objects which please or strike the senses. He grapples prejudices, turns sneers into truths, and detects in admitted truths, biting satires. Out of unimportant narrations, there springs a familiar institution or cardinal principal. Blessings are seen to be disasters in disguise, and disasters blessings. We tremble to find, in some important

junctures, that ability would have been fatal; and smile to find that weakness and meanness subserve the ends of right. Who would have fancied that the present prejudice against negroes, sprung from the decay of Catholicism? yet the fact is demonstrated, and the curious may find it in the first volume, page 22. In religion, he is ever ready with a "lay sermon," now lecturing the time serving Cranmer; now dissecting the adherent of Knox; now showing off Archbishop Sand, and now tearing the shallow device away from the hollow hearted James, Duke of York. How admirably he distinguishes between enlightened devotion and practical zealotry. "The experience of many ages proves that men may be ready to fight to the death, and to persecute without pity for a religion whose creed they do not understand, and whose precepts they habitually disobey." He could not see the exact propriety of great rogues and designing courtiers being good Catholics or excellent Protestants, while they both forgot Christianity: neither could he pass over that mercy in the Prince which reflected double infamy on his cruelty. The solemn visage and nasal imprecations of pseudo-godliness—proscribing innocent amusements—receive no more favor at his hands than the scandalous wit and gay debauchery of those who made that godliness the theme of ridicule. A true moralist, he goes to the motive. In all his delineations of men and manners, we feel that justice will be meted out to the deserving, and reprobation to the guilty. The majesty and solemn twilight of antiquity can hide no baseness from his eye. He lives in the era he records, and thus he makes us feel that everywhere human beings like ourselves, with hopes and fears, joys and sorrows, passions and prejudices, live and move as we ourselves would have lived and moved under similar circumstances.

We have said that Macaulay is the historian of the people. Not alone is he such, in the light we have viewed him, as the delineator of their home, every-day life; but as the champion of their political rights. As this champion he next deserves our attention. In this view, we propose to trace that course of events which was consummated in the Revotion of 1668. The second volume ends with this era. The history nominally begins with the accession of James I.; but in reality, all that is most valuable in English History, from the earliest epoch, is reviewed with a master hand. It has

not been very fashionable since Niebuhr scattered the fables of Roman antiquity, to dwell upon those marvels, which are always rich and strange in proportion to the depth of their obscurity. The history of Britain, "from the first traditional beginning," has found a congenial expositor in the pen of John Milton, who rendered into prose what Spencer hath better preserved in poetry—its more fitting investiture. It matters little to us whether Britain was first settled by Gomer, the son of Japhat; or by Albion, a son of Neptune; (pretty fable for the sea girt isle,) or by Brutus, a descendant of the Trojan Æneas, to whom Diana, in a vision of the night, thus revealed its existence and predicted its power:

> "Brutus, far to the west in th' ocean wide
> Beyond the realm of Gaul, a land there lies,
> Sea girt it lies, where giants dwelt of old,
> Now void, it fits thy people; thither bend
> Thy course, there shalt thou find a lasting seat
> Where to thy sons another Troy shall rise;
> And Kings be born to thee, whose dreaded might
> Shall awe the world, and conquer nations bold."

We Yankees might glory somewhat in that prophecy: more especially as that puissant descendant of Brutus, George III., could *not* awe or conquer us, even in so small a matter as stamp duties and tea drinking. But let that go. We do not envy the classic ancestry of old England. The vanity is really beautiful. Our author does not stop to play with these things. With a few bold dashes he paints the first rough Briton—then, the conflict of the two Teutonic races, the Dane and Saxon, passing over, as of little moment, the Roman sway—then the common degradation of the two races under the heel of the proud Norman. He gives little prominence to the facts of English History during the Plantaganets, and hastens on to mingle with the contest which began with the dawn of the Reformation under the Tudors, and was continued with unceasing acrimony until the Stuarts were driven from the throne and the liberties of Englishmen guarantied by the Bill of Rights in 1688.

Is it quaint Sir Thomas Browne, or some other sagacious observer, who says that it is not fit for every man to take up the gauntlet in the cause of verity; and that many, from an inconsiderate zeal, have too rashly charged the troops of error, and remain as trophies to the enemies of truth? If there ever was a question which required a want of rash-

ness and a plenitude of moderation, it is this question of prerogative and privilege. Up to the present history of Macaulay, it hath fared badly by reason of its impetuous disputants. Hume is confessedly the historian of royalty; and his account of the Stuarts is little better than an apology. It would be a matter of surprise as it is of regret, that Americans derive most of their ideas of English Government from Hume, were it not too well known that no refinement, however cultivated, could be insensible to the "careless and inimitable beauties" of his style, his general air of calmness and good sense, and the charms of his graceful narrative. On the other hand, we have a gallaxy of historic talent, conspicuous among whom are Rapin, Miller and Gilbert Stuart, equally impetuous in their exclusive advocacy of popular privileges. Where Hume imputes all violence and resistance to faction and barbarism, they find only the laudable spirit of English liberty. Hume always finds a turbulent people, regardless of the law; while they only see a weak or malignant king trampling upon popular rights. There will always be these divisions in writers. The one side will be eager to show prerogatives predominant from the earliest times; the other to prove that all power in theory and in fact, was originally derived from the people. Facts will be overlooked or wrested from their real meaning, according to the view taken of this question.

The ground of English History, is thus well occupied down to the reign of William and Mary. Here Hume ends his researches. It was at this point, that the ablest man of the time, Sir James Mackintosh, began his history, or rather projected it. He only gave the world three octavos; but he had collected the most invaluable materials, to continue in a truer strain, the history of Hume. From Holland and France he had received the authentic despatches of the ministers of that era. We might regret that such a valuable collection resulted in so small an offering from a mind so full of comprehensive thought and sound philosophy—political and moral—were it not that it was placed by the family of Sir James, in the hands of Macaulay, and has resulted in the splendid volumes before us. Always siding with the whigs, as his friend Sir James had before him, Macaulay, like him, reprobates the angry and uncandid partisanship of both whig and tory; the first always anxious to prove the

English Government all but republican, and the last to prove that it was all but despotic. It was neither. The two elements of the government present this peculiar phase, that the "democracy was from an early period the most aristocratic, and the aristocracy the most democratic in the world." As to the Constitution, or its rise, about which so much rancor has been shown, Macaulay regards it as a gradual development, and not the result of demolition and reconstruction. "The present Constitution is to the Constitution five hundred years ago, what the tree is to the sapling, what the man is to the boy. The alteration has been great. Yet there never was a moment at which the chief part of what existed was not old. A polity thus formed must abound in anomolies. But for the evils arising from mere anomolies, we have ample compensation. Other societies possess written Constitutions; but no other society has yet succeeded in uniting revolution with proscription, prowess with stability, the energy of youth with the majesty of immemorial antiquity." Have we not here the secret of the immobility of old England amid the late throes of Europe.

One more quotation to illustrate the philosophical view and candid moderation of our author. In speaking of the obvious and indispensable division of parties he says: "It has its origin in diversities of temper, of understanding and of interest, and which will be found till the human mind ceases to be drawn in opposite directions by the charm of habit, and the charm of novelty. Not only in politics, but in literature, in art, in science, in surgery and mechanics, in navigation and agriculture, nay, even in mathematics we find this distinction. Everywhere there is a class of men, who cling with fondness to whatever is ancient, and who even when convinced, by overpowering reasons, that innovation would be beneficial, consent to it with many misgivings and forebodings. We find, also, everywhere, another class of men, sanguine in hope, bold in speculation, always pressing forward, quick to discern the imperfections of whatever exists, disposed to think lightly of the risks and inconveniences which attend improvements and disposed to give every change credit for being an improvement. In the sentiments of both classes there is something to approve, but of both the best specimens will be found not

far from the common frontier. The extreme section of one class consists of bigoted dotards, the extreme section of the other class consists of shallow and reckless empirics." What Englishman of either division can complain of these radical and eternal principles? In their light only can we catch the true features of the English Constitution. Without their light, although hundreds of the most delicate lineaments may be caught, the expression must fail. Let us use them as a test, and every fact in English history becomes significant. Even so far back as Edward III., we may find the same high prerogatives asserted by the King, and complained of by the Commons—the dispensing power—monopolies—commission of trailbaton—pressing and imprisonment without law, and the quartering of soldiery.

There was always some virtue in the Commons, even when every other department was the truckling servitor of royalty. From the time of its enactment at Runneymede, *Magna Charta* was re-asserted thirty-two times; until it was engrafted upon the Declaration and Bill of Rights in 1688. The Commons never forgot its provisions. They told even Henry VIII. his commissions to raise money were against the fundamental law. The glorious reign of Elizabeth passed not without a certain Wentworth questioning a certain dispensing power—"whether there be any council but this, only of parliament, which can make, add to, or diminish from the laws of this realm." In the time of James I. the parliament did not hesitate to assert in their "Apology" the very reverse of James' pretensions and practice. The acts of the succeeding reign—the petition of right—the Hampton shipmoney—the death of Strafford—the labors of the long parliament—the Puritan supremacy—the tragic death of Charles, and the iron handed Oliver's ascendency, are all full of meaning in their ultimate bearing upon the Revolution of 1688.

As soon as the intoxicating effects of the Restoration were over, there began the silent yet sure reaction in favor of the privileges of the subject. It is well to mark the strength of loyalty, increased by the doctrines of passive obedience, heralded everywhere by the Church, and the gathering strength of that singular body of men whom Macaulay portrays as "looking down upon the rich and the eloquent, upon nobles and upon priests with contempt, esteeming themselves rich in a more enduring treasure, and eloquent in a

more sublime language—nobles by the right of an earlier creation, and priests by the imposition of a mightier hand." The leaven of true puritanism was at work, and with a power, the more ominous from its silence. To all appearance, the English people were the weak and willing subjects of a king, himself subject to the meanest of vices, and to his court, where "intrigue was plot and obscurity was wit." Before the death of Charles, the nation began to awaken at the prospect of the succession. Keenly alive to the interests of their religion, and continually excited by alarms of Popish plots, they became anxious to exclude from the throne the Catholic bigot, who was heir and brother to the king—the Duke of York. But Charles died with no act of exclusion upon the statute, and James became the lawful, and by his profuse professions, the popular monarch of the realm. He had no sooner grasped the sceptre, however, than he began a series of acts whose object was to strengthen his prerogative, and establish Catholicism. In no two points could he have encountered the people of England with greater danger to himself. The various antecedents to the Revolution are most minutely, yet graphically and methodically set forth in Macaulay's second volume. If we should give prominence to any one element as the prime cause of the Revolution, it would be the outrages of James upon the religion of England. Protestantism was the only religion, and as against Catholics, it ever presented a united front. James found this out to his sorrow in his attempt to wheedle the Dissenters. The next cause in importance, was the character of James. He was arrogant, severe, vindictive, bigoted, relentless, headstrong and imprudent. Had he been a moderate Catholic with the high pretensions of his house; or an over zealous religionist, swaying a mild sceptre, the Revolution would have beeen doutful.

Every other cause that can legitimately spring out of a bad executive—a corrupt judiciary, dispensing laws, arbitrary imprisonments, judicial murders, and scandalous favoritism—was present. The foreign relations of England were the more immediate cause of the Revolution. Continental interference in English affairs at any other juncture would have been hazardous, and by any one less cautious than William would have been madness. England had been the stipendiary of Louis XIV. The Stuarts, in their desire to be

independent of Parliament, stooped to receive money of the French court. Louis was the enemy of Protestantism and Liberty on the Continent—William, the prince of Orange, of Holland, their defender. William burned to destroy the supremacy of Louis. With England's aid only it could be done. Macaulay wisely lays great stress upon William's motive in coming over. He loved England, only as England could aid him in plans which he had long formed of breaking the power of France. A series of blunders on the part of James, the arrest of the Bishops for example, favored the designs of William, and the gales of heaven proving propitious, he landed in England, and effected a revolution which is none the less efficacious because almost bloodless, and none the less glorious because not destructively radical.

As before the Revolution, there were divisions in the nation, one side leaning towards loyalty, and loving old institutions, and the other side only recognizing the people as the legitimate source of authority at all times; so, in the very article of death and after the burial of the old dynasty, the same predispositions were manifest, often since the basis of the Revolution has been questioned. There were some principles which it settled forever. It reversed the slavish apothegm, *a Deo rex, a rege lex*. It defined the Constitution as a result from the popular will, a contract to be observed by rulers and ruled, of mutual and dependent conditions. The question, however, was whether the Revolution sanctioned old forms and old features; or whether the government began *de novo*. The fact was simply this: that the ancient line of descent was departed from; but the men of that time anxious to reconcile their action with that of their ancestry, hid the harsh front of their revolution under a well wrought veil of policy. The two estates declared William and Mary the sovereigns; not because of Mary's blood, she being James' daughter. Anne was alive and the elder. They not only declare but create. The principle is elective, not hereditary. It is surely not founded in conquest, for William could truly say "*recepi, non rapui.*" There was some talk of James' abdication; but this was a soothing draught for the churchmen and tories. James had not in fact, or in form abdicated. It was this talk that misled Mr. Burke. The basis of William's elevation was election by the people's representatives. Whether

the election was of a race, or of a man, still it was an election. The same power excluded James' son and his heirs. Mackintosh well says, that the principle which elevated William and preferred the posterity of Sophia, of Hanover, would equally, in point of right, have vindicated the election of Chancellor Jeffries, or Colonel Kirk. The paramount authority of the popular will was asserted. A breach was made in the old Constitution. The leaders thought to draw attention from the breach, by building high and beautiful, some of the barriers which had not been dismantled. Hence the conflicting views above mentioned. Hence the inconsistency remarked even by Smollet, that though William was created *jure humano*, he governed *jure divino;* and that though the change proceeded from a republican spirit, it was built on tory maxims.

The principles asserted in this revolution were the rallying cries of America, from the first act of resistance, up to the more manly declaration in 1776. The English in 1688 feared to demand freedom as their inherent right, but asserted their freedom because they had been free. Still in this assertion were contained the principles of representation and taxation, non-quartering of soldiery and the many grievances of the colonists. To understand our own Revolution, we must study the English. Our defender in England--Halifax--even in James' council, objected to the alteration of the Massachusetts charter, on precisely the same principles that our defenders in Parliament objected to the stamp duty.

There is this difference between the two revolutions. The English was equivocal in its language though unmistakable in its nature; the American was manly; decisive, and independent in tone and act. The "Declaration of Right" was a noble assertion of the rights of *Englishmen*. The Declaration of Independence was a noble assertion of the rights of MAN! English liberty had birth, youth, age, renewal; was of charters, petitions, and usages. American liberty had neither birth nor lineage, save that of heaven. Both are the greatest revolutions the world has yet seen, for their practical importance and permanency stand unrivalled and alone.

In this our revolutionary era, when even Rome has established a republic on the ruins of the great hierarchy

itself, it becomes us to analyse the elements of society with careful eye. Revolutions are hard to justify. They should be the *ultima ratio populi.* Anarchy hovers over every revolution, and despotism is eager for the unguarded prey. The necessity of restraint, the effects of disregarding property and life, the general interest, argue powerfully against revolution in any case, and irresistibly, for "light and transient causes." There is a mine of wisdom in the remark of Mackintosh, "that the chiefs of an ill-concerted revolt incur a formidable responsibility." But, he says, on the other hand, and here is the precise line marked out for all good men to follow, that "an insurrection rendered necessary by oppression, and warranted by a reasonable probability of a happy termination, is an act of public virtue, always environed with so much peril, as to merit admiration." Revolutions to be good, must be gradual, the mind must be informed and the soul inspired with lofty precepts and noble examples. He who records for this mind, with liberal pen and truthful soul, should receive admiration, only next to him whose resolves and actions are his theme. Honor to William and Washington! Then honor to the historic pens by whom they are heralded! Ever let us have true men of thought as the mirror of true men of action. Each will then be honored in honoring the other. *Laudari a laudato laus est;* and the good of all ages and of every clime will erect co-eternal monuments to the memory of both actor and recorder.

## Art. XVII.—THE AGE OF THE MATERIAL UNIVERSE.

Until within thirty years the general belief of mankind was, that the earth had been in existence only about 6,000 years. The researches of Geologists, and the astonishing discoveries of Astronomers have, within that time, entirely changed, on this point, the opinions of those conversant with natural philosophy, and the natural sciences.

Men who have become proficients in the physical sciences; now agree, the world over, that our earth, and the solar system, and the yet unfathomed "stellar world," have existed *hundreds* of *thousands* of years.

The great past duration of the universe, is an idea that new developments go continually to increase, and not diminish; so that we may safely estimate its age at millions of years, instead of hundreds of thousands.

I shall exhibit to you this evening, some of the facts upon which this belief is founded.

I may not succeed, in causing so difficult a subject to be comprehended at once, but may give you some assistance in your future contemplations upon it.

The periods of time with which it is necessary to deal are so vast, compared with our own earthly existence, or even compared with the historic periods, that it is only by the use of our imagination that we can embrace the idea. Just as in Astronomy we are well convinced of the immense distance of the stars, but do not realise by comparison the length of a line extending from the earth to them, or even from the sun to the earth, or 95,000,000 of miles.

The distances over which we travel on the earth, and over which ships sail on the ocean, being at most only 24,000 miles—or the circumference of the earth—become *as nothing* when applied to the heavenly bodies. The evidence of our senses in reference to space must be left behind, and the conclusions of the mind must be received as true.

I doubt whether an individual present, has a rational conception of the length of a line reaching to our moon, the nearest heavenly body, and distant only about ten times the circumference of the earth.

In contemplating the existence of the universe, we must accustom ourselves to grasp long periods of time, as in Astronomy we do great extension of lines and spaces.

There is another difficulty in the discussion of the longevity of the earth, which arises from our prior convictions and opinions and particularly from a fear on the part of some, and a belief on the part of others, that the doctrine here taught is contrary to the Holy Scriptures.

This branch of the subject is purely *theological* and one, the discussion of which belongs to theologians, and not to philosophers. But it is so interesting, and the apprehensions of christians so unfounded, that I am tempted to digress a little, for the purpose of noticing its connexion with revelation.

And in the outset I should observe—as I shall show before I close—that the science of Astronomy, presents far greater difficulties to be reconciled, than that of Geology: and the arguments in favor of the extreme past duration of our planet, drawn from our knowledge of the stars, are the most conclusive of all.

And I should add, moreover, that among the Geologists and Astronomers of my acquaintance, and those with whose personal history I am acquainted, there are, proportionally, more devout and pious men, than there are among civilised mankind at large, or the secular professions.

The arguments which have been drawn from Geology unfavorable to the truths of christianity, have originated, not with learned men, but with those who are not well informed upon the subject. I know of no exception among the living Geologists, of a man who does not believe the earth to be more than an hundred thousand years old; yet at least one half of them are exemplary, professing christians, who assert, that their confidence in the scripture revelations, is unimpaired.

There was issued in England, a few years since, a work which attracted much attention, entitled "*Vestiges of Creation.*" This book made pretensions to being an exponent of Modern Geology. But Geologists of reputation, in America and Europe, regard the author's ideas as in the main, contradictory, and not in harmony with science—the vagaries of a diseased, or a half instructed mind.

It is an exemplification of the words of the old English

poet and philosopher, that a "*little* learning is a dangerous thing."

I know of no standard work on Geology, that attempts to throw discredit on revelation; although nearly all of them date the creation of the world far back of the historic period of 6,000 years.

The first and the most popular difficulty arises from *confounding*, the era of the appearance of man upon the earth, with the creation of the world. There is no geological evidence, so far as I know, showing that man has been more than 6,000 years in existence. But the fact of a long prior existence of the earth itself is a *separate idea*, and should not be mixed with the *peopling* of the world by human beings.

There has been a great deal written upon the question of reconciling the Mosaic account of the creation, with the present state of science. The qualifications necessary to discuss this question, are possessed by few men living, if they are by any. It requires a mind, free from every external and improper bias. The man, or the men, who enter upon the discussion, must be linguists of the first class; to scan the Mosaic account thoroughly, in all the languages through which it has passed—from the Hebrew to the English.

They would require to be masters of modern science; and here it is doubtful whether the progress of learning is yet such as to render it safe to make a final conclusion of the matter.

The translators of the Septuagint, had only the astronomical light of the era of Ptolemy. The translators of the English Bible, were a little better informed; but even then the Copernican system was not universally received. Great strides in scientific discovery have been made since the days of James the Second.

But I have not forgotten my resolution to express some of the modern views, entertained upon the supposed discrepancy. It will be of course principally a repetition of what may be seen by you all in publications upon Geology, Theology, and Astronomy.

The first chapter of Genesis does not appear to have been intended as a piece of *natural history*, and should not be regarded as such. There is no doubt but He who made all

things, knows all about them and could give us, if he chose, at once the laws of matter, and the most perfect history of the *manner* in which they were originated. In our researches, we should first divide the *act* of *creation* from the acts of *change* to which matter has been subject *since its creation.* The absolute *creation* of *matter*, is an idea beyond our comprehension.

The prevailing theory is, that the first or primeval state of the planets, was that of a vitrified mass, which would naturally become round by motion on its axis. But how that mass was brought into being, is not as yet a subject of human speculation; it is referred directly to the incomprehensible power of God. The observations of man, have disclosed abundant evidence of *change in the condition* of our planet; and the *laws*, the *number*, and the *nature* of *these changes, constitute the science of Geology.*

I conceive, it is only the first verse of the first chapter of Genesis, that may be truly said to refer to the *creation* technically speaking: "In the beginning God created the heavens and the earth."

The next verse describes the condition of the earth, *after* creation.

"And the earth was without form and void, and darkness was upon the face of the deep," &c.

The succeeding verses, are chiefly taken up by a statement of the *changes* introduced in the earth, which had always been made.

The dry land appears—oceans of water result from the emergence of the land—plants spring up—the waters bring forth things that have life. Here is past creation, and past modification of what was created. The animals, plants, and fishes, were *originated;* the mountains and seas, were the consequence of a rise of the solid materials of the globe, that is, its rocky portions; thus driving its waters into the great primeval valleys—forming oceans, and lesser bodies of water.

But I do not think, there is an *attempt* in the first chapter of Genesis—or any where in the Bible—to give a full, clear and detailed description of these stupendous events.

The revelation is a moral, and not a scientific one—what there is in it of science, history or political law, is *incidental* to the morality and religion there communicated,

and goes no farther. What is purely secular, is merely illustrative, and to be understood, must have been made in terms in use, and in accordance with the state of intelligence of the people to whom it was addressed;—if not, it was to them no revelation—it would be merely nothing. The Hebrews had seen by night, a revolving heaven filled with stars, and had so often watched these mysterious objects as they presented themselves anew, each evening, that they had discovered some, which had a relative motion, among the others.

Here their knowledge of the planets and the planetary system ended. The people of Israel could neither read nor write. The priests were the depositories of knowledge, and they were not much in advance of the people. What did Moses, their prophet and legislator, know of Astronomy or of Geology? Was he inspired in matters of science, above the learning of his day? There is no evidence that he was. Had that been the case, it must have been with reference to the moral revelations he was to make to his people, and in them we should have found expressions relating to science. Was such a revelation necessary to sustain and support the moral and religious law? If it was, how much of it? If it was regarded by the Deity as of consequence to his purposes, that mankind should be provided with an easy way to secular knowledge, would he not have introduced such subjects in his revelation?

If it was necessary for his prophets to possess this knowledge, he would have imparted it to them, and they, recording his communications, must inevitably have made use of expressions, that would show us that they had this knowledge.

The result would have been, that a moral subject would at one time require, or connect itself, with Mathematics; at another with Natural Philosophy; then with Chemistry, and so on through the range of the sciences and the arts; not merely as known to us, but as shall be known through the progress of time; and as fully as known to the Divine mind.

Mankind would not have been in ignorance, till the days of Copernicus, that the sun occupies the centre of our system, and that the earth does not stand still, in space.

It would not have remained for Kepler to show, that the planets describe equal spaces of their orbits, in equal times;

nor to teach that other great law of Astronomy, that the cubes of their times of revolution are proportional to the squares of their mean distances—Archimides could have developed no new ideas on mechanical forces—Sir Humphrey Davy no discoveries in Chemistry—Franklin, in Electricity—or Morse, in Telegraphs. We should have known of the existence of the planet Uranius before the days of Herschel; of Neptune, before Leverrier and Adams—we should probably know whether there is beyond the orbit of Neptune, more than 4,000,000,000 of miles from our sun, another member, or other members of the solar system.

But these developments, not forming any part of the written revelation, I conclude that a knowledge of the sciences, or of natural history, was purposely kept from the books of revelation.

A query might be started, whether there are not in fact some such matters contained in the sacred records? and whether, if there are, they must not agree with true science? So far as I am acquainted, I know of no subject *purely scientific*—no phrases that appear to be intended merely to give such information, upon the pages of the Bible. If knowledge of this kind is any where advanced, it should, when fully understood, certainly correspond with our ideas on the same subject, where we understand it correctly and fully.

The Divine reason and human reason, are the same mental perception; and when humanity can reach the truth, its ideas correspond to those of the Deity on the same subject.

Thus the mathematical principal, that the sum of the squares of the sides of a right angled triangle, are equal to the square of the hypotheneuse, is an idea comprehensible alike to the Divine and the human intellect. So with the property of gravitation; with Kepler's astronomical laws; chemical affinity; geological principles, and all other knowledge. Our powers are limited to the *discovery* of God's laws; they are not equal to the origin of laws in nature, or science. When the two grades of intellect unite, in the understanding of a subject, human reason, as far as it sees correctly, must be the same in *quality*, though infinitely less in quantity, as Divine reason. The difference is, that we are continually subject to error; he is not; we are always learning; he never learns.

It is on such grounds, that I regard the Bible as forming no part of our "natural history," or of our science; and that the first chapter of Genesis, should not be regarded as a description, or an attempt at a description of the mode or manner of the creation.

For such a purpose it is too meagre, too confused, and too blind;—it would have required, not merely one short chapter, but many large volumes, to disclose as much respecting the act of forming and peopling the solar system, as we already know.

The most that can be drawn from that chapter, as bearing upon the *modus operandi*, is a succinct, unqualified statement—brief as it is sublime—that in some remote, undiscovered period, God made the universe.

After the lapse of an indefinite period, a succession of *changes* and *modifications* took place, accompanied by additional acts of creation which may still be going on. The intervals between these periods, are unequal and indefinite, or as yet not known.

The most learned theological commentators, teach us that the Hebrew word translated day, should be regarded as meaning epoch, era, period, generation, or time, and not a natural day of twenty-four hours—nor does it mean periods of equal duration. This construction is evidently necessary to accord with observed facts. The lower animals lived, died—and whole *species* disappeared and ceased to exist, before others were created or brought into being. They could not therefore, have been made simultaneously in the same day, unless they were also cut off instantly, and new forms of life put in their place through numberless repetitions. This would be a mere act of creative sport, without design or beneficial purpose, an act of which no one supposes the Creator capable.

Dr. John Pye Smith says, the first verse refers to an "indefinite epoch in past eternity"—also that the term translated "*created*" may be used for the words "adjusted," and "finished."

Dr. Jenks says, the Hebrew word "erets," or earth, "implies every thing relating to the *terraqueo, aerial* globe; that is all that belongs to the solid and fluid parts of our world, and its surrounding atmosphere."

The expression "And the evening and the morning were

the first day," has been rendered "and there was evening and there was morning the first day," and also, "and there was dusk and there was dawn the first day."

I said the description was too *confused* to convey a clear idea of the process, taking the order of narration for the *order* of events.

There is day and night spoken of before the firmament, and before the sun, moon and stars. In the original, the firmament is not created, but made to appear. On the sixth day man and woman are said to have been created, male and female. But in the second chapter, the creation of man, the formation of the garden of Eden, and afterwards the creation of woman, appear to have taken place, if it was in the order as mentioned, after the seventh, or day of rest. This want of order and perspicuity, is common to ancient writings, and to the scriptures, where rhetoric and the grammatical structure of sentences give way to the native vigor of untutored and imaginative writers.

Plants are said to have been created before animals and the inhabitants of the seas. As to land plants, the researches of Geology, in its present state, give a contrary order, and show us that the mollusca existed long before these vegitables, but future investigations may show facts to change the received opinion of geologists. Not long since marine plants were supposed to be more recent than the mollusca, but the New York geologists found, and recently published sketches of marine vegetables in the Potsdam Sandstone, the oldest rock of the New York system.

I present these apparent discrepancies, to show that there are difficulties in reconciling the various parts of the narration *to itself*, considered as a piece of natural history. And to enforce my belief that it was *not so intended*. Any enlightened human mind, which should understand such a memoir, would study to make it clear, orderly and consistent; much more the Divine mind.

Geology, however, discloses a good general resemblance, in the order of *the changes* and creations, to those set forth in Genesis.

Almost the lowest fossil remains, which must of necessity be almost the oldest in the order of Chronology, have eyes fitted to receive light. This is the case with trilobites found low down in the "silurian system," though the lenses com-

posing the eye, are constructed of great power, adapted to a very dim light. These creatures crawled on the bottom of ancient seas, and of course were made *after* the creation of light, or their eyes would be useless. Light must also have preceded the growth of plants.

Fossil remains prove that animals inhabiting the waters, were in existence before those that walk on land.

The fossil elephant, mastodon, buffalo, megatherium, &c., are more recent than the fossil saurians, or water lizards, which were of great size.

Geology establishes the position that the first condition of this planet, is aptly described by the statement that it was "without form, and void."

The crystalline rocks, sometimes called the "primitive rocks," such as granite, sienite, and gneiss, are regarded as the cooled crust, or exterior of the earth; its central portions still remaining in a liquid or volcanic state. The surface of the earth, before the "sedimentary" or stratafied rocks were formed, would present the appearance of confused heaps of fractured angular primitive rocks, now represented by the peaks of the Andes, the Rocky Mountains, the Granite Hills of New England, the Alps, and the Himmalys. In the "Plutonic" or primitive rocks, there are no fossils; no evidences that during the long interval between the time when our planet took its place in the solar system, and the period when the sedimentary rocks were deposited, any living, moving or breathing thing, existed upon the earth.

A change then took place, and a new class of rocks began to be formed, by the agency of water. Those rocks, which we call the "sedimentary," rest upon the Plutonic, and contain every where the preserved bodies of living organised creatures. Those that are first in point of time, or lowest in the system, are a small shell fish called the "Lingula." As we ascend in the geological structure, the fossil remains become more numerous, and new forms of animal life constantly appear, such as fishes, reptiles, and birds.

Again, Geology teaches that the animals adapted to the use of man, and at the same time to live on dry land, did not come into being till the geological changes were nearly complete. It shows that they were made near the last act of creation, and either contemporary or closely connected with the production of man. The remains of the ox, horse,

elk, deer, &c., are found in the last deposite of all the "drift;" or as it is some times called the "diluvium." This is the mixture of sand, gravel, bowlders, clay and earth, which covers the surface of the indurated rocks. But even here, no remains of man are found, of a fossil character, showing that he appeared after all the organic changes had been made, and the surface of the earth had taken, in general, its present form.

Thus it may be shown, that Geology finds in the progress of the creative acts, an order corresponding, in a general way, with the Mosaic Books; and that the descrepancies are not greater than would be anticipated, when we consider, that it was no part of the sacred historians duty, to teach Cosmogony.

I now dismiss the subject of discrepancies, to return to the main question—that of the proofs of great age in our earth. An entire volume, would not be too much space to devote to it. I begin with our own region.

If you look about from the upland of this village, you observe a plain, the general level of which extends from the Summit Lake, northerly to old Portage, and Cuyahoga Falls. On each side of this space are rocky highlands; in the township of Portage on the west, and Tallmage to the east. The Cuyahoga river comes in from the northeast, the Little Cuyahoga on the southeast, and on the south the branch which runs from the Summit Lake through this village. These streams have worn channels or gulfs into the plain, from fifty to one hundred and fifty feet deep, and the inquiry arises at once, how long would it take their waters to do this work?

The present course of our streams was marked out as the ancient waters receded, and the dry land appeared. Our streams are merely the conduits for water falling from the clouds upon the surface of the earth.

As the land emerged from the ocean, there would be at first, short rivulets like those of an island, and as the waters fell, the length and number of streams would be increased. These would unite, always taking the lowest ground; forming great tunnels, like the Ohio, and finally like the Mississippi. The mouths of course changing position, and advancing as the level of the sea, into which they discharged, became lower and lower. This is on the supposition of a

gradual subsidence of the waters, or a gradual rise of the land, both of which may have taken place. In some parts of the world, these movements were convulsive and not gradual.

Imagine the level of the water to be at the summit of the bluffs at the old Portage; and as it settled away, the Cuyahoga beginning its work of excavation upon the drift which occupied its immediate valley.

The deposits of sand, clay and gravel, would be rapidly removed, as many of you have witnessed, in the artificial grades effected by means of water, at the sand bluffs of the Little Cuyahoga, north of this town.

But beneath this drift, there is rock to which the streams soon come; and after that, their progress in excavation must be slow, depending upon the nature of the rock for hardness. The surface rock here is called "conglomerate," or the "pebbly sandstone," being a coarse gravel sand rock, with white silicious pebbles imbedded. It is on the average about one hundred feet thick, and may be seen in the street just north of the Court House, at the Carmel quarry, at the point of rocks, the old forge, Middleburg, and in both banks of the Cuyahoga, from the Valley Forge to Cuyahoga Falls.

The rock below it is composed of alternate layers of soft shale, and close grained sandstone, and iron ore.

The fall, or descent, of the two Cuyahogas, is about one hundred and sixty feet in two miles along the rapids: more than half of which is in chutes, and tumbles over the conglomerate rock. The fine grained sandstone, and shale beneath, in which the channel is formed below the edge of the conglomerate, is easily worn away, by the force of the current and by frost.

On the contrary, the conglomerate is a very durable rock, not easily disentegrated by weather or by water. The characteristic features are those of cliffs, standing out sharp cut to the day, while softer rocks form rounded and earth covered bluffs. Whereever this rock is found, there are water falls, and a rude wild scenery. Where the waters of the great Cuyahoga begin to fall over the edges of this rock at the lower end of the gorge at Valley Forge, the shale beneath would be torn up rapidly by the force of the descent: but the conglomerate acting as a protection, prevented the channel from wearing up stream as fast as it would have

done, if the rock had been all shale. The *undermining* process would go on below, and at the same time the wearing process above. There is now presented a chasm two miles in length, at the lower end about 200 feet deep, at the upper 25 or 30; its width but little greater than its depth.

How many years must have elapsed during the formation of this gulf? Along the upper half the water has not yet cut through the hard conglomerate rock, which there forms the bed as well as the walls of the gulf. Since the occupation of white men, no perceptible gain has been observed upon the rocky channel of the river by the action of the elements. It is a rock, which, when quarried and put into buildings, bridges, and walls, is regarded as proof against weather and climate. Its constituents are silicious crystals and pebbles, cemented by a little iron. And yet the never-ceasing flow of the Cuyahoga is eating a pathway through its mass at a slow but certain rate.

If we could, by long observation, determine how much was gained in a period of years, as they have at the Falls of Niagara, we could give the estimate a mathematical form and certainty.

At the Niagara river the chasm is seven miles in length, and the most eminent geologists have made computations upon the rate of its advance. They have a map of the figure of the Fall, made by Hennepin about 1680, and have studied the character of the rocks which lie beneath.

There, as here, there is a substratum of shale, easily torn away; the lime rock at the crest of the Falls, being of better resisting power. They have also discovered an ancient channel which leaves the present one at the whirlpool, and reaches Lake Ontario some miles west of the present mouth of the Niagara river. This channel is now filled with drift: but that the river, or at least a part of it, once discharged there, is well established by Sir Charles Lyell. The Geologist of New York, Mr. James Hall, has made close surveys of the Fall as it now is, and in addition to the map, has fixed copper pins in the rocks, by which means future examiners may judge of the recession of the Falls.

After all these investigations, I believe no geologist fixes the period that must have been occupied by the Niagara river in excavating its present channel below the Falls, at less than 43,000 years.

Considering the resisting nature of the conglomerate as compared with the Niagara limestone, which is slightly soluble in water, the less mechanical power of the stream, and the apparent stability of the rock since the settlement of this country by whites, I am inclined to regard the time necessary to wear out the gulf of the Falls of Cuyahoga as great as that for Niagara, or say 50,000 years.

This is one item in our computation, and applies only to the lapse of time, since the deposition of the sedimentary rocks, and the emergence of the continents from the ancient seas.

Another item of the account, founded on geological investigation, is the period between the drift and the igneous or plutonic rocks, heretofore known as the primary. This was occupied in the slow deposit of the "sedimentary" or aqueous rocks, having a thickness of two to five miles. Every stone mason and quarry man knows that the rocks split in the horizontal much easier than they break in the vertical line. This is owing to the mode of deposition by very gradual subsidence, such as we see when muddy water is allowed to settle and become clear.

The mud at the bottom forms in thin layers or lamina, and when the waters retire as in floods of the Ohio and Mississippi, and the residuary matter becomes dry in the sun, it peels up in their distinct beds like slate or shale. The secondary shales are the best example of laminated rocks, but the sandstones and conglomerates are stratified, internally, in a less degree. It is this universal feature which distinguishes the aqueous from the igneous rocks, of which there are none in Ohio. The aqueous, or sedimentary, contain fossils, and from these facts we can deduce their great age.

In this State we may examine about 4000 feet in thickness of the fossilliferous, stratified, and laminated rocks. Their order and relative thickness may be seen in the Reports, extending from the lower silurian, or blue limestone of Cincinnati, up to the top of the coal series.

Now the part of one bed, or stratum, lying above another in the aqueous rocks, is conclusive as to its relative age.

The upper one must be the most recent. The coal series must be newer than the conglomerate—the conglomerate newer than the fine grained sandstone, the fine grained sandstone

newer than the black shale, and this newer than the cliff limestone, which is beneath it. Carry the same reasoning into superposition of lamina, and each definable portion of the bed, or stratum, not thicker sometimes than stout paper, is more recent than the lamana below it. How many hundreds of thousands of these may there be in 4000 feet?

You will then inquire, what is the evidence that these thin plates of rock, were deposited slowly, and not in a short space of time. If they are closely examined, there will be seen enclosed within the mass the forms of animals, and plants, which retain their form and minutest markings in all the perfection of life.

The marine animals, the testacea and the crustacea, must have lived and grown near where they are now found, for they are not constructed for travel. The rate of deposition must therefore have been such as to allow a quiet existence, not disturbed by a rapid flux and reflux of the waters.

In agitated and highly turbid waters, their dead bodies would soon be injured, if not destroyed; and at least the delicate markings of these shells would be worn off. The same reasoning may be applied to the vegetable remains of the coal series. If they were not deposited in quiet waters, the leaves and fine fibres of the stems would certainly be lost; but there is not a flower or shrub growing on the face of the globe, more perfect than the coal plants that adorn the rocks of our mines. We know, too, that the deposition now going on in the bottom of our lakes and seas, is comparatively slow. When the schooner Acorn was sunk in Lake Erie, in the fall of 1843, in 68 feet water, and 10 miles from shore, the sediment on her decks at the expiration of two months, was about *one quarter* of an inch, or at the rate of one and a half inches per year, or twelve and a half feet in a century.

If we suppose the sedimentary rocks of the globe to be 3 miles in thickness, and I have seen them where they are thicker, we have 15,840 feet. Allowing a rate of deposition twice as rapid as that upon the deck of the Acorn, or 25 feet in a century, and we have 63,200 years for a period occupied in the formation of the sedimentary rocks, and to be added to the period of recession in Niagara and Cuyahoga Falls, making 113,000 years. It may be said that this mode of calculation is very indefinite—that it is founded on speculation, and does not *command* belief.

I think, however, without pursuing the geological evidence farther, every one must admit, that whether we can estimate the existence of the world correctly in this way or not, there are proofs on one side of an antiquity for greater than 6000 years, and on the other no contradictory evidence, even in the Scriptures.

But there is a method of calculation that is liable to no objection, and capable of being made in exact Mathematical terms. It is based on a knowledge of the velocity of light. This substance, although it travels very fast, is not, like electricity, endowed with the faculty of instantaneous transit through space. It is 8 minutes and 13 seconds coming to us from the sun. Astronomers were many weary years trying to find out the distance of the fixed stars. Their remoteness was so great, that when viewed from opposite sides of the earth's orbit, that is to say, at opposite extremities of a line, 190,000,000 of miles in length, no "parallax," or angle at the star was observed.

The most they could say was, that if the angle was only *one second*, they should have been able to find it, and that the distance of the star with a parallax of *one second* would be twenty billions, or 20,000,000,000 of miles, and its light would be about ten years in coming to us. This distance is, to our minds, absolutely incomprehensible, but is less than the nearest fixed stars, and therefore less than the space between the outside of our system, and the inside of the starry universe beyond.

In comparison with such distances, the orbit of Leverrier's planet becomes a mere line; yet we must tax our imaginations to mount still higher, and try and grasp the idea of objects many times more remote than *Sirius*, or any of the visible stars.

By a process that it would be difficult at this time to make intelligible, Professor Bessel, of Koningsburg, in Prussia, has at last actually solved the problem of the true distance of a fixed star. By years of observation upon a double star in the constellation of the Swan, commonly called "61 cygni," he has found a parallax, by which a mathematical computation, unerring in its result, gives a distance about three times greater than the least limit just noticed, or 63,000,000,000 of miles instead of 20,000,000,000—its light being 30 years in making a journey to us, at the rate of 12,000,000 of miles per minute.

Astronomers take this fixed quantity as a unit, and with it go on with their examinations of the depth where the remoter stars are seen. This is done by comparing their relative *brightness*, on the supposition that they are of equal magnitude, and decrease in brilliancy on account of distance. Applying this rule, Sir Wm. Herschel's great telescope brought into view, stars that were 500 times farther off than 61 cygni, and thus about 1500 years of our reckoning must pass while their rays are travelling to our system.

But we cannot rest here, although our minds may stagger at the thought of another forward movement in space. The power of a telescope, is its capacity to make a body appear to be nearer to us than it appears to the eye.

Sirius, or the "Dog Star," might be seen by the naked eye, if removed twelve times farther from us than it is.

If from the last point where it would be thus visible, it was removed again one hundred times farther, and a telescope of the power of 100 applied to it, the observer would bring back Sirius to his vision. The number of stars which we behold in walking out of a clear evening, is but few compared to those which the Astronomer sees when looking through his telescope, and the higher the power of his instrument, the more numerous do they appear.

Instruments of low power disclose nebula, that are imperceptible to the unaided vision, which, on increasing the telescopic power, are found to be not nebula but clusters of stars, so distant that at first they appear like a fleece, or cloud of light, resting upon the sky. The Milky Way is an instance of a *visible* nebula. Their distance is estimated by the power used in their discovery, supposing the intensity of their light to be the same as other and nearer stars.

Now William Herschel examined nebula, that his telescope did not resolve, or separate into stars, and its power was such that, had they been within a distance from where their light would come to us in 350,000 years, he would have detected the separate stars. Lord Rosse *has resolved some of these nebula* with his 52 feet reflecting telescope, whose known penetrating power is estimated at *ten times* that of Herschel's.

The last named Astronomer supposes that there are luminous bodies within the telescopic range whose rays reach us only after a flight of more than a million of years.

Such is the scale upon which the universe is built. Its remote luminaries are no longer measured by miles, or by diameters of the earth's orbit. These standards of measure, though scarcely comprehensible to our senses—*they are so great*—when applied to the distant fixed stars, *are so small* that they do not convey the ideas which Astronomers profess and desire to communicate.

When they spoke of the comparative distance of the stars among themselves, they state how many years the light of the various stars will occupy in traversing the space between them.

The distance of a star of the first magnitude, like *Sirius*, *Aldeboran*, or *Beletyeuse*, in the shoulder of Orion, they say is *seventeen* (17) years away from the sun. Stars of the second magnitude, *thirty* (30) years; and those of the sixth magnitude, being the most remote that are visible to the naked eye, are (130) *one hundred and thirty years* from the sun.

Those that lie so far out in the ocean of the sky, that Herschel's great telescope could just discover them, require 3,541 years to make known their existence to us.

We may be overwhelmed by such considerations, our finite minds may be strained and fatigued by them—but we must go farther still.

The sun itself is in motion, bearing along with it the whole train of planets, satellites and comets, which constitute our system.

You will ask where is it travelling to? and moving as it does 33,350,000 miles each year; how long before it will encounter some other system, and produce confusion there?

Its movement is now towards the constellation of *Hercules*. We should consider here, what I have stated before, that between the outside of our solar system; which as now defined, is the planet of Leverrier; and the nearest fixed star, or sun, or other system; there is a space which it takes *light*—moving 12,000,000 of miles every minute of time—*ten years to cross;* and would require 105,882 years, for our earth, going on an errand through space as fast as it does in its own orbit, to reach our nearest celestial neighbor.

The star R in Hercules, to which the sun is directing his course, is *much more distant;* its light, instead of being ten years, is *forty-six* years, in reaching us. The annual rate

at which the sun moves, as I have just stated, or 33,350,000 miles, is such, that it will require from this time, about 1,800,000 years for us to reach Hercules; provided he remains at rest. But not only the constellation "Hercules," but all the constellations and all the stars, have a motion, and revolve around a *central point*, which is called the "centre of gravity" of the stellar universe.

This point is near the star Alcyone; one of the *Pleaides;* so far from the earth, that its light is 537 years in its flight from there to us.

As a *right line motion* is not known in nature, and since it is well settled that all the planets, satellites and comets, move in *curves*, we must conclude from analogy, that the sun, and all the stars, move in curves also, such as circles or eclipses; which curves return to themselves, and constitute an *orbit* like those of the planets, but inconceivably larger. On this hypothesis, how long must time flow on, before our sun will complete one journey around Alcyone, and come back to its present position?

Astronomers have computed this period, knowing its present rate of progress, and fix it at 18,200,000 years!!

I have introduced these sublime facts, to accustom you to the idea of great periods of time, as well as immense distances in space.

By the side of these vast cycles, what is the historic period of 6,000 years! what is a century! what the life of man!

If the ten millions of suns which the telescope discovers in the heavens, have been in existence only 6,000 years, our lot is cast in the earliest infancy of the world. For if but 6,000 years of the existence of the universe have elapsed, what figures can express the period, when its being shall draw to a close. It is reasonable to consider that a work of such extent and grandeur, should have a length of life in proportion to its dimensions. That it was not made for display, but for some useful and protracted purpose; and if it is true that the stars, like the planets, have their orbits, and periods of revolution, it is no doubt true, that they will be permitted to make, at least one grand circuit around the universe, before they are blotted out.

The above Lecture was delivered before the Akron (Ohio) Lyceum, Wednesday evening, March 7, 1849, and contributed to the Western Quarterly Review by CHARLES WHITTLESEY, ESQ., of Cleveland, Ohio.

## Art. XVIII.—DECLINE OF THE CHURCH.

The Church has wielded the most powerful empire over the human mind in all ages of the world.

If we peruse the Jewish history, we find the Church standing out as the prominent feature of that nation. So all-engrossing was the religious organization of that people, that the government was a theocracy—the civil and ecclesiastical power being almost identical.

If we look back to the Chaldean and Persian nations, we shall find the Astrologers and the Magi keeping a guardian watchfulness over the people, and with religious solemnity invoking the sun, the moon and the stars, for guidance in fulfilling their mission. The fire worshippers were among the most devoted people the world ever knew; at the rising of the sun, the whole nation prostrated themselves in most hearty adoration, as though the great God of the universe had suddenly stripped the veil from his radiant countenance and smiled once more upon an abandoned people.

Zoroaster, the Christ of the Chaldeans, ruled the people for many ages; and the Magi of Persia, were not less omnipotent over the public mind.

If we pass on to Egypt, lo, the land is yet full of the monuments of the peoples' religious devotion, that have withstood the storms of the long centuries. Her mighty temples are yet described from the large pillars that have survived the destructive power of time, and her pyramids, built for an eternity of endurance, testify to the superiority of the ecclesiastical over the temporal power.

The Apis, the Isis and Osiris were symbols of the Almighty Infinitude, and the object of political regulations seemed to be rather the protection of religious devotion, than as the supreme authority.

Religion, too, was deeply seated in the Greecian mind. The Church sat aloft o'er the state, and commanded the first homage and offering of the people. Did a Lawgiver appear to reform political abuses, he was careful to invest himself with the mantle of religion, and appear before the people annointed for his mission, and bearing the metre as a sym-

bol of his divine commission. Solon mounted the rostrum, and announced himself as the one sent from the Gods to regenerate the Athenian state. Lycurgus appeared in the same attitude before the Spartans, and to insure the perpetuity of his laws, departed under the pretence of visiting a Goddess in a distant temple, to see if he had done all in his power,—and he administered an oath to support his institutions until his return. He never returned, and the people were persuaded that he had ascended to the abode of the Gods, as one who had fulfiled a glorious mission, and proved a claim to a seat in the mansion of the skies.

The Church was not less omnipotent among the Romans. The "Eternal City" was built by the especial direction of the Gods, and that mighty people were cradled in the bosom of the Church. The sacred fires were not suffered to go out during the period of the nation's glory, and the purest of the purer sex—the vestal virgins ministered at the altar. The Roman people recognised the Divine hand in all events, and their Augurs were consulted on all trying occasions. The mightiest of her heroes trembled under an anathema of the Priest—they were shorn of their power by a curse from the Church.

Neither were those savage hords that came down upon them like an Alpine avalanch and dissolved the institutions of a corrupt people, destitute of the power of the Church. Odin was a God omnipotent to them, and the Druids were Priests who ministered in his temples, more powerful than the tall chiefs who led the dauntless hosts to battle.

But these barbarians were destined to become civilized, and to be the guardians of liberty and learning. They saw something of nobility in the manners and customs of those they had conquered, though dishonored by a degenerate people, and they improved the means that their valor had thus brought within their reach. The first Kings of France, Germany, Spain and England, were the roughest savages; but such as were susceptible to the influence of knowledge and virtue. A gradual improvement took place, until these became the leading nations of the earth, and now with America, the daughter, are the only enlightened nations of the present age. Yet, during this transitional period, one religion was eradicated from the affections of the people and another substituted in its place. The new system—being

the Catholic or Christian religion—did not come with any diminution of authority, but rather claimed a commission direct from the Eternal God, to sit in judgment over Kings, Emperors and people. The Church used no armor nor marched to battle; but, through the Pontifical head—the vicegerent of God—the successor of St. Peter, she thundered her anathemas against all offenders, and the people fled affrighted from their standards, and the stoutest hearts quailed with fear.

Neither did the Church lose its authority when Protestantism took the place of Catholicism. But in both Europe and America, where she held the supremacy, her influence was omnipotent for two centuries and a half.

All were born into the Church, and the reputation of no man was safe who should straggle out of it. Until within the last half century, few individuals were found on either side of the great waters who was not a communicant of the Church.

But a great change has been wrought during this period. The Church has lost her hold upon the reverence of the people, and instead of all flocking to her altars for temporal and eternal safety, a vast majority of the people are disconnected from any religious society.

In the United States there are now 21,000,000 of people, of whom about 4,000,000, or not one to four, belong to the Church. If we make allowance for children considered too young to hold a fellowship in the Church, we shall find that at least three-fourths of the people who have reached to years of discretion, have no connection with any christian denomination. But of these 4,000,000 only 3,000,000 are Evangelical Christians–the remainder being chiefly Catholics.

But with this small portion of the whole population, the Church is not increasing nor even preserving her strength. She is at this moment losing numbers and consequently power. In 1846 the various Evangelical Churches stood thus:

| | |
|---|---|
| Presbyterians, - - - | 322,079 |
| N. Methodists, - - - - | 644,299 |
| Baptists, - - - - | 1,116,176 |
| Mission Churches, - - - | 651,332 |
| Episcopalians, - - - | 69,066 |
| **Total 1846, - - - -** | **2,802,952** |

In 1848 the account stood thus:

| | |
|---|---|
| Presbyterians, | 322,986 |
| N. Methodists, | 639,066 |
| Baptists, | 1,066,261 |
| Mission Churches, | 664,566 |
| Episcopalians, | 66,034 |
| Total 1848, | 2,758,913 |
| Difference, | 44,039 |

Here we have an actual decrease of church communicants of 44,039 in two years, or 22,019 in one year, or about one per cent. diminution, while the population of the country is increasing about four per cent. per annum. If we look into the individual denominations, we find that the Presbyterians increased 907 during the two years, the Baptists, lost 49,-915, the Mission Churches increased 13,244, and the Episcopalians lost 3,032 during this period; while the Methodists from 1845 to 1847 inclusive, lost 25,084—the amount standing thus:

| | |
|---|---|
| 1845, | 656,642 |
| 1847, | 631,558 |
| Decrease, | 25,048 |

During the year 1848, this denomination increased 7,508 which would leave 17,576 as the actual decrease from 1845 to 1848 inclusive. At this rate, how long will it take to evangelize the world?

But this reduction is not brought about in consequence of lack of effort on the part of Theological Seminaries, Ministers and Missionaries; for during this unfortunate period the clergymen have greatly increased. Thus in

| | |
|---|---|
| 1846 the number was | 26,904 |
| 1848 " " " | 27,219 |
| Increase in two years, | 315 |

In 1846 the number of communicants in the Methodist Church decreased 12,343, while the preachers increased 214. In the Episcopal Church the members numbered in

| | |
|---|---|
| 1844, - - - - - - | 72,099 |
| 1847, - - - - - - | 67,550 |
| Decrease, - - - - - | 4,549 |
| Clergymen 1844, - - - - - | 1,096 |
| " 1847, - - - - | 1,404 |
| Increase, - - - - - - | 308 |

Thus the Ministers increased 308 in three years and the members diminished 4,549.

Verily, this shows a disastrous state of things in the Evangelical Church! The Church of the Reformation—the Church of progress, is really losing her glory and receding from her proud position. This fact should startle every one who treads her courts as the Mediatorial pathway to the skies, and lead them to inquire the cause of such a disastrous state. They should solemnly inquire why it is that in an age when common schools are gathering in all the youth of the land, and banishing ignorance from the people—when all science is opening the mighty arcana of nature and unfolding to mankind the secrets of the Universe—when crime is diminishing in every state, and virtue increasing—when philanthropists are multiplying, and effectual assaults are made upon unequal institutions and unjust laws,—in short, why is it that in an age where every means of harmonizing man, exalting his powers and purifying his social condition, the Church—the Evangelical Church—the institution of the Eternal God, as it is claimed, is actually retrograding and rapidly losing its power? If it be what is claimed for it, the nursing mother of true piety—if it be the temple at whose altar all purity is enshrined, certainly she should increase her strength with every increase of knowledge and virtue among the people. Every step of progress a man out of this Church makes in the true life, should bring him nearer the Church. And yet during this continual declension in the Church, the amount collected and disbursed for Foreign Missions increases. There was contributed

| | |
|---|---|
| In 1847, - - - - - | $211,403 |
| In 1848, - - - - - | 254,056 |
| Increase, - - - - | $42,653 |

as reported by the American Board of Foreign Missions.

Neither is the Catholic branch of the Church, supported by the strong tide of emigratiom, less prosperous.

The Catholic Almanac, published in Baltimore, and which is generally recognised as good authority, represents no increase in the Roman Catholic diocesses of Baltimore, New Orleans, Louisville, Boston, Philadelphia, New York, Charleston, Mobile, Detroit, Vincennes, Natchez, Pittsburgh, Little Rock, Milwaukie, Albany, Galveston and Buffalo, while in the diocese of Cleveland there has been an actual loss of 5,000 from the last year's computation of 30,000. The only green spots in this wide-spread desert are, the diocese of Cincinnati, where there has been an addition of 15,000 to the 50,000 of last year; Dubuque, where there is a gain of 500 on the former sum of 6,500; Nashville, where the last year's number of Catholics has doubled, being now 3,000, while it was only 1,500 a year ago; Chicago, where 3,000 have been added to the 20,000 of last year, and Oregon, with the parts adjacent, where 7,500 had grown up to 8,100, being a gain of 600—Indians and others. The total decrease of Roman Catholics in the United States during the year, was 109,400; and the present number of the denomination in this country, 1,276,300.

Thus it appears that the Catholics decreased during the past year, over 100,000, while over 200,000 come hither from foreign countries.

Neither is this decrease owing to a lack of colleges and seminaries in the power of the Church. The account in this respect stands thus:

| | | | | | |
|---|---|---|---|---|---|
| Methodists, | | 1 | College to | 78,575 | members. |
| Baptists, | | 1 | " " | 59,137 | " |
| Presbyterians, | | 1 | " " | 6,668 | " |
| Congregationalists, | | 1 | " " | 32,022 | " |
| Episcopalians, | | 1 | " " | 6,755 | " |
| Catholics, | | 1 | " " | 85,050 | " |
| Methodists, | 6 | T. Seminaries | for | 1,178,637 | " |
| Baptists, | 11 | " | " | 813,921 | " |
| Presbyterians, | 11 | " | " | 334,453 | " |
| Congregat's. | 5 | " | " | 193,693 | " |
| Episcopalians, | 3 | " | " | 67,550 | " |
| Lutherans, | 3 | " | " | 149,625 | " |
| All others, | 6 | " | " | 241,730 | " |
| Catholics, | 16 | " | " | 1,276,70 | " |

Thus we see that the Baptists have many more Colleges and Theological Seminaries than the Methodists and yet have diminished their numbers. The Episcopalians have about the same number of Colleges and Seminaries in proportion to their members as the Presbyterians, and yet they have greatly lost while the Presbyterians have gained in numbers. Neither is their diminution owing to a lack of wealth in the Church, or of freedom in its expenditure.

A table has been published showing the number of churches of each of the principal denominations, cost, annual expenses, &c., made up from tables in the last published census of Boston, exhibiting the following results:

In Boston forty-nine churches have been built at an expense of $3,246,500, or over $32,000 average cost of each. It has twenty-one Unitarian churches costing on the average $40,000 each. The annual expense attending these churches is about $175,000.

Other cities of this country are not behind Boston. New York has many stupendous edifices whose spires tower aloft over all else to indicate the supremacy of the Church over all human authority. But if we judge from the facts we have quoted, showing the retrogradation of the Church, these spires might be compared to the tower of Babel on which the foolish builders expected to escape the wrath and the whirlwinds of the Almighty, but which resulted in a most wonderful confusion of tongues and confounding of faces. Those spires indicate establishments of wealth, of pride and pageantry—where the money lords and aristocratic barons tread the sacred aisles of the Great God in honor of the "Carpenter's Son," and where no one from the dominion of poverty is permitted to enter, where none but the jewelled and those equipped in costly array can appear in peace. One of these establishments is worth $30,000,000—more than half the value of this great city—the rightful owners of which now number hundreds scattered through the land, and generally classed with the poor. That estate was taken unjustly from the ancestor by the Church, who, had he been permitted to hold his own, would have been able to train up his children in virtue and made hundreds of respectable members of society. But instead of this the property went to the church to pander to the pride of the few and not to save the souls of the many. Another

church, to preserve its dignity and gentility has erected a small one for the especial accommodation of the poor. I have often thought that if Jesus could reappear on the earth he would be compelled to attend the congregation of the poor and outcast of the world, for such he came to save! Oh, I have thought how his heart would throb with anguish could he appear again and see what had been done with his religion—a religion he established while wandering, without scrip or purse and satisfying his hunger from the green ears of corn he plucked from the field! He would find many of his temples in every city put to more unholy purposes than was that of old by the money-changers who fled before his withering rebuke!

But if we look at the Church of England, we shall conclude that no lack of pecuniary support has caused the decline. Mr. Horseman, in a speech in Parliament concerning the Hampden controversy, stated the salaries of some of the Bishops.

"On a former occasion the Archbishop of Canterbury said that he thought the revenues of his see much to large, and they ought to be reduced to £15,000 a year; and the Bishop of London thought £10,000 a year enough for his see, but they both persisted in retaining their present revenues during their lives—although they admitted that they were too great and ought to be curtailed.

"The Archbishop of Canterbury returned his income at £22,216 gross, and £19,182 net; but Dr. Lushington the year before, in 1830, said that the average income of the archepiscopal see was £32,000. Next came the return of the Archbishop of York, who made his income to be £13,000 gross, and £12,000 net; and added that a decrease of at least £20 per cent. must be expected. Accordingly his future income was set down at £10,600: but the return made by himself in 1843, showed that his income had risen to £14,550, an increase of £40 per cent.

"He now came to the case of the Bishop of London, who returned his income at £13,900, and stated that there must be a decrease, in accordance with which his future income was estimated at £12,204. It had risen, however, by the return of 1843, to £14,552.

"Five years before there had been an act of Parliament obtained for the express purpose of promoting them. Terraces were springing up in every direction, and a mine of wealth was thus secured to the Bishop of London which he was almost afraid to calculate; it had, however, been estimated that it must eventually amount to £100,000 a year.

"The Bishop of Durham returned his gross income at £21,000, and his net income at £19,000; his future income he put down at £17,890. Instead of this, however, the net income rose to £22,000, and the gross income to £26,000. The Bishop of St. Asaph estimated his income at £6,300, but it had risen to £6,548. The honorable gentleman gave similar details with reference to the following sees, stating in every case that the bishops had calculated on a decrease: Chester, estimated in 1831 at £4,229 net, put down at £3,800, and increased to £5,200 in 1843; Hereford, put down by the ecclesiastical commissioners in 1831 at £2,510, but had risen to £3,194, Lincoln, estimated at £3,800, but increased to £5,223; Norwich, income returned in 1831 at £5,300, put down at £4,700, and risen in 1843 to £5,728; Oxford, returned in 1831 at £2,648, future income estimated at £1,628, income in 1843, £2,659;Salisbury, in 1831, returned at £4,000 gross, future income estimated at £5,000, returned in 1843 at £7,200; Worcester, in 1831, £6,509 net, future income estimated at £6,500, returned in 1843 at £7,122 net, and £8,166 gross. The Bishop of Llandaff returned the income of his see in 1831 at £924, and he was the only prelate who said there would probably be an increase in the future income; but, like all the rest, he was mistaken, for it turned out that, by the year 1843, it had decreased to £915. Nevertheless, it was upon these statements that the commissioners proceeded to make their future calculations.

All this extravagance we see indulged by the Fathers of Zion, those who are at the head of the Church, and ought to be examples of purity, simplicity, and benevolence. This extortion we see on the part of a few Bishops, while the working clergy suffer privation. What must be the effect of such examples with all intelligent men? Why, either that Christianity itself is a humbug, or it is so perverted by its followers. I hesitate not to say that the latter is the fact. There was no humbug in the teachings of Jesus, sanctioned by a life of purity. The man who could agonize in the garden, and sweat blood for the misery that afflicted the people, lodge in hovels, yea, even amid the mountain rocks, while preaching deliverance to the poor, was no humbug, but a reality that ought to shame three-fourths of his followers of the present day. Methinks he would agonize again, not in a garden, for he would have no right to enter one, but in the streets of our cities and towns.

We have said that this retrograde movement of the Church was not owing to the increase of ignorance. The rapidity

with which our people are advancing in intelligence is truly gratifying to every philanthropist. Almost every state of this Union is making improvements annually in the School system. Some that have done nothing in the cause of free education are now establishing free Schools. Several states are just waking up to the importance of this subject, and the new states, as Wisconsin, place the education of the people above all other interests. Louisiana, during the last year, voted half a million towards education. Indiana voted, by a large majority, for free schools, and Virginia, that was dead and buried, has risen from her sleep, and is rapidly gathering her children into the school house. New York sends every child to school, and she has provided 1,400,000 books for her youth to read. The common School Report of Michigan for 1848, show 98,044 youths between the ages of 4 and 18 out of the aggregate of 117,952, who attended school—an increase over the previous year of 9,964 in the common schools. The libraries of the 345 Townships contain 58,203 volumes, being an increase during the year, of 45 libraries, and 14,277 volumes. The last Legislature of New York declared the common schools free in that State; and the Report of the Ohio schools shows that a growing interest is felt in nearly every county in relation to the education of the people.

In a county in Wisconsin just organized, we find its people gathering together and resolving as follows:

"*Resolved*, That the principle of graduation of schools should be incorporated into the Common School system of this State.

*Resolved*, That it is important at this time to organize a Teachers' Institute for Sheboygan county.

*Resolved*, That a Common School Journal should be established in this State, as soon as the same may be practicable."

Such is the spirit all over the land, and yet the Church is declining.

Let us quote a passage from Macaulay:

"It is pleasant to reflect that the public mind of England has softened while it has ripened, and that we have, in the course of ages become, not only a wiser, but also a kinder people. There is scarcely a page of the history or lighter literature of the seventeenth century which does not contain some proof that our ancestors were less humane than their posterity. The discipline of workshops, of schools, of private families, though not more efficient than at present, was infinitely harsher. Masters, well

born and bred, were in the habit of beating their servants. Pedagogues knew no way of imparting knowledge but by beating their pupils. Husbands, of decent station, were not ashamed to beat their wives. The implacability of hostile factions was such as we can scarcely conceive. Whigs were disposed to murmur because Stafford was suffered to die without seeing his bones burned before his face. Tories reviled and insulted Russell as his coach passed from the Tower to the Scaffold in Lincoln's Inn Fields. As little mercy was shown by the populace to sufferers of an humbler rank.

"If an offender be put in pillory, it was well if he escape with life from the shower of brick-bats and paving stones. If he was tied to the cart's tail, the crowd pressed around him imploring the hangman to give it to the fellow well, and make him howl. Gentlemen arranged parties of pleasure to Bridewell on court days, for the purpose of seeing the wretched women who beat hemp there whipped. A man pressed to death for refusing to plead, a woman burned for coining, excited less sympathy than is now felt for a galled horse or an over driven ox. Fights, compared with which a boxing match is a refined and humane spectacle, were among the favorite diversions of a large part of the town. Multitudes gathered to see gladiators hack each other to pieces with deadly weapons, and shouted with delight when one of the combatants lost a finger or an eye. The prisons were hells on earth, seminaries of every crime and disease. At the assizes, the lean and yellow culprits brought with them from their cells to the dock an atmosphere of stench and pestilence which sometimes avenged them on bench, bar and jury. But on all this misery society looked with profound indifference. No where could be found that sensitive and restless compassion which has in our time extended a powerful protection to the factory child, to the hindoo widow, to the negro slave, which pries into the stores and water casks of every emigrant ship, which winces at every lash laid on the back of a drunken soldier, which will not suffer the thief in the hulks to be ill fed or over-worked, and which has repeatedly endeavored to save the life of even the murderer."

Such is an indication of what is being done for the increase of education and benevolence, while the Church is sliding down hill, and has not life enough to ascend again.

But the parson may reply that there is a lamentable deficiency of moral culture in our schools. In answer it may be said that the Church controlls our colleges and primary schools, and though she has every thing her own way, she

does not contain one fourth of the entire population, and is diminishing in numbers. The moral instruction in our schools is such as the Church provides, and she has no ground of complaint here.

But, not only so—while the Church is retrograding, vice and crime are actually on the decrease. As proof of of this we refer to Article xxi. for abundant facts.

Besides this, the last Report on the New York Penitentiaries show a farther diminution of crime. It appears the number in the several prisons was as follows:

| | 1847 | 1848 | Less | In. |
|---|---|---|---|---|
| Auburn, | 507 | 452 | 55 | |
| Sing Sing, | 682 | 611 | 71 | |
| " " Females, | 89 | 83 | 6 | |
| Chriton, | 148 | 163 | | 15 |
| Total, | 1426 | 1309 | 132 | 15 |

Here we have an actual decrease in the number of convicts to the New York prison of 117 in one year.

In Ohio the average number of convicts in the Penitentiary was

In 1847, 461; In 1848, 432. Decrease, 29.

In New York we thus find a decrease of 8 per cent in one year of crime, while the population increased over 3 per cent, and emigration increased 40 per cent. In Ohio the decrease of crime has been 6 per cent, while the people have increased 4 per cent.

The Rev. Dr. Bushnell, city Missionary of Cincinnati, reports the number of commitments for several years as follows:

In 1845, 873; In 1846, 811; In 1848, 679.

Here we have an annual diminution of commitments for a continuous number of four years, of over seven per cent, while the population increased about ten per cent per annum.

Crime was increased throughout the country during the past year, owing to causes which will be explained in a future article.

Neither is the decline in the Church the consequence of a lack of vitality in the precepts of Christ.

"Ye have heard that it hath been said: Thou shalt love

thy neighbor and hate thine enemy. But I say unto you: Love your enemies, bless them that curse you, do good to them that hate you, and pray for them that dispitefully use you and persecute you."—Matt. v. 43, 44.

"But I say unto you, that ye resist not evil; but whosoever shall smite thee on thy right cheek, turn to him the other also."—Matt. v. 39.

"Though I speak with the tongues of men and of angels, and have not charity, I am become as sounding brass or a tinkling symbol. And though I have the gift of prophecy, and understand all mystery and all knowledge, and though I have all faith, so that I could remove mountains, and have not charity, I am nothing. And though I bestow my goods to feed the poor, and though I give my body to be burned and have not charity, it profiteth me nothing."—1 Cor. xiii. 1-3.

"When thou makest a dinner or a supper call not thy friends nor thy brethren, neither thy kinsmen, nor thy rich neighbors, lest they also bid thee again, and a recompense be made thee. But when thou makest a feast, call the poor, the maimed, the lame and the blind."—Luke xiv. 12, 13.

But we need not quote more or we shall be puzzled to find a christian in the existing Church, for who obeys the precepts we have quoted?

There is, then, vitality enough in the precepts on which the Church professes to be founded. There is moral power sufficient to regenerate the world—a power that is redeeming mankind from the thraldom of vice and poverty and war.

Is it not surprising that the Church which commands the reverence and awe of the people, and claims to be the fountain of all purity and truth should be found retrograding in the most brilliant period of the world's history—when mankind are superior in all respects to any former period? Is it not strange that the Church which claims to be the only gate-way of salvation should be most powerful in the darkest periods of time, and be absolutely losing its power in the most luminious era that ever dawned upon man? Is it not wonderful that the temple of all truth should be crumbling to the ground in spite of all efforts put forth to protect its walls? Is it not astonishing that God should make the Church the only ante-chamber of salvation, and turn all not found in this fold into unending despair, and yet

permit its glory to depart as the sun of Truth advances upward toward a meridian of splendor? Is it not amazing that the "straight and narrow way" should be travelled by so few, and those few become less and less as intelligence and virtue increase? And yet this Church sits in sullen p ide and in scorn condemns to endless suffering three-fourths of the human family. From her ten thousand domes, she summons' the people to judgment; and while the saints all decked with gold and silver and jewels and costly apparrel, sit under the quiet assurance that all is well—that Heaven will open to receive them, angels smile at their approach, and seraphims strike up a welcome, lo! one of the holy flock, a brother in the Lord, is pining with hunger in a filthy hovel within hearing of the church-going bell! While they repose in cushioned pews, bolted against the lowly of the earth, and drink in the consolation that their money purchases from the minister, lo! a widow in a no distant garret is reposing upon her pallet of straw to recover the vitality she has lost during the week, in midnight toil, to support her orphans! There was a Church in ancient times, of which Decius, a Roman persecutor, demanded its treasures; and they brought the poor, the blind, the lame, the widow and the orphan. The contrast of this with the Churches of the present day needs no comment.

There is, then, something wrong in the Church—the fault is not in the Truth. That is "mighty and will prevail." As certain as the springtime appears, and the freshness and fragrance of nature fills the air, so certain will the Truth triumph. This world is not without purpose—and that purpose is a mighty one. All humanity is to be restored to the freedom of God, and every son and daughter of man admitted to a full fruition of the bounties of the Creator. Then shall sighing and sorrow cease, peace and plenty abound, and the Truth shall triumph in the gladness that shall fill the hearts of all mankind, unmocked by a single victim of degradation a nd poverty, and unembittered by a single moan from an oppressed heart!

**Note.—It is proper to state that the statistics of some of the denominations are brought down to 1848 by the reports to which we had access, while we calculated the gain or loss of others from 1847, and 1848 from the gain or loss of previous reports.**

## Art. XIX.—REVIEW OF COSMOGONIES.

Cosmogonies are common. This department of the republic of letters is purely democratic. Every one has a cosmogony of his own. The little child who believes the blue above but a round roof, and the earth beneath but a level floor—the astronomer who brings near, and resolves with his mirror, the remote nebulæ—the unsophisticated disciple of Ptolomy, who cannot soar above the idea that our sphere is the centre around which the Universe revolves—and the comprehensive philosopher, who descries it darting with its fellow planets and the sun, towards the distant constellation of Hercules, and thus changing its relations towards space and matter,—each has a cosmogony of his own, wherewith to reconcile, for himself, all the phenomena observed by him in the Universe.

In treating our subject, we propose, for the sake of perspicuity, to divide our inquiries into four heads:

*First*—What is a cosmogony?

*Second*—What are illustrations of cosmogonies? Under which we shall sketch the various cosmogonies that have existed, poetical, semi-poetical, theoretical, theological and scientific.

*Third*—What is the true mode of investigation to be pursued by cosmogonists? Under which we shall review the late work of Mr. Poe, called "Eureka."

*Fourth*—What is the current and most reliable cosmogony?

I. *What is a cosmogony?* It is an extensive generalization. Its object is to explain the remote in space and duration, by laws or processes, whose energy and nature have been deduced from the course of phenomena that are near. The essence of a true cosmogony is, that it accounts for phenomena by laws or processes, than which

there are none higher to impede, overturn or modify. It can claim, at best, only a high degree of probability. Until man can understand all the relations of things—until knowledge is absolute, cosmogony can never be exact or infallible. To the Supreme Wisdom alone, can it thus exist in its perfection.

A perfect cosmogony would include, as well the architecture of the heavens—the essence and end of matter, and the nature and destiny of man, as the object of all life and the problem of its enjoyment; together with the power, knowledge and beneficence which constitute the divine nature. To grasp these entirely and perfectly, demands a God. To endeavor to attain the nearness which human probability requires, demands a god-like comprehension. Few should dare it. This is the sphere of superior intellect. It is a theme too splendid and dazzling for ordinary mind. It is a reach beyond the wing of imagination, which is here only in its appropriate office, when it is veiling the eye from the white radiance of reason. Under the inspiration of a curiosity so glorious as that inspired by such a subject, wherein the mind labors to maintain its equipoise, and can hardly be withheld from indulging its high rapture and sacred fury, it becomes us to see to it, that enthusiasm be restrained within the limits of reason, and that enquirers pursue the right method, even when they reach the right conclusion.

A cosmogony may be fanciful, imaginary, speculative and scientific; or each, or some, or all of these. A fanciful or imaginary cosmogony may please, amuse or enrapture us. A speculative cosmogony may do more. If put forth without dogmatism, and resting even upon slight probability, it should not be discouraged, though it should be closely criticized. Even false speculation hath an important office in scientific progress. It forcibly draws inquiry to the dim and unknown; and, by preventing that hasty appeal to final causes—which is the refuge of lazy talent and learned imbecility—gives activity to philosophy and better and higher notions of the plans of the Creator. A scientific cosmogony, by venturing on the domain of the hitherto unsearchable, views in awful verity, the final cause of all things, and the purposes of God himself; but it is through many and various steps, secondary and limited

—by rising with law above law, "the higher enveloping all the lower—the last always grander and farther-reaching than what had before been descried, until the series ascends to the invisible, and enters the hidden sanctuary of God."

II. *What are illustrations of cosmogonies?* There are some points, be it here remarked, in which every system, howsoever fanciful, speculative or scientific, will be found to agree. The idea of unity pervades the earliest as well as the latest system. The idea of design, also, was not confined to the Mosaic, but it was a favorite theme of the Grecian cosmogony. The idea of a Supreme Designer, though not as universally received, still has characterized most of the reflections and even superstitions upon this subject.

The Mosaic cosmogony is the simplest, and therefore, the truest system extant. It may be regarded as the pioneer system; which, while it stimulated, failed to satisfy curiosity. The results of science may be all reconciled with it, because it begins and ends where science always ends —in a First Uncreate Cause, whose word was power, and whose will creative. This divine cosmogony did not reveal the forms, the essence, or the relations of *one* world even; much less of the countless millions which adorn our sky. But the intellect of man, restless as the spheres, began early its shaping processes. The simple arrangement of a number of orbs, revolving in concentric circles, now so common and so easily received, was not the early belief. It is curious and instructive to note the labor expended—the plans formed and given up—the ingenuity exerted, in order to attain unto the present simple arrangement. What seems now so easy, was the issue of a two thousand year's investigation.

Two principles were necessary, in order that men should discern the earth in its proper relation: *first*, that a visible fact is not always a real fact; *secondly*, that we may be in motion while observing bodies also in motion. The planets seemed, from the earth, to move only in straight lines; or when they departed from them, it was only to twist themselves into inexplicable loops. It required something more than vision to determine the true motions. We are apt to laugh at Old Hipparchus and Ptolomy, for their strange ideas of the solar system, without thinking that

they were really the NEWTONS and HERSCHELS of their own time. If we remember that the earth's motion was hidden from them, we will not wonder that they gave it the prominence in their cosmogony. Around it the planets seemed to pass in regular order. Only now and then, some unaccountable retrograde would occur. This, however, served to quicken ingenuity; for it led to a cosmogony, which—known as the Ptolemiac system—held the world in thrall for ages, received the sanction of religion, and required a Copernicus and a Kepler to overturn its hallowed temple.

The heavenly "Syntax" of Ptolomy, was composed to account for the irregularities of the planets, and to save the immobility of the earth. The centres only of the planets, were conceived to revolve around the earth; but during these revolutions, the planets revolved around their own centres. Hence arose the famous cycles and epicycles. The first revolution was the cycle, the second the epicycle. The Ptolemiac system never progressed; it only marked time. True, men saw its deficiency, even when they consecrated it by religion. Time rolled on, and with it, like Ezekiel's vision of the wheels within wheels, rolled the cycles and whirled the lesser epicycles, until they became spheres of crystal, whose jingling was none other than the music of the morning stars. This crystalization of the globes was the last error, invented by the ingenious to preserve the dignity of our earth, and frown down the growing importance of our sun.

The results of Copernicus, with his system, are well known. How he moved the earth, and like a second Joshua, bade the sun stand still; how he changed, by a few capital propositions, the entire order of the Universe; how, with modest zeal and splendid genius, he unfolded the laws of motion—accounted for the retrogradations of the planets, and reconciled all observed phenomena with his solar central system—is familiar to all. But not so familiar are the laborious research—the mystical arguments, sanctioned of God's ministers, encountered—the difficulties incident to defective observations—and the might of his illustrious mind, as it passed beyond his time into the unfathomable, and drew from the future, the grandeur and glory of his discoveries.

It is not our purpose, even if it were within our province,

to display or analyze the successive states of astronomical enquiry. The intelligent reader is referred, if he has not already anticipated us, to the popular and glowing treatise of our fellow citizen, Professor Mitchell; or to the splendid discourses of Professor Nichol, of Glasgow, of whom, more hereafter. It is our aim, more especially to segregate from the mass of astronomical enquiry and poetic effusion, those systems and imaginary systems of the world, which are striking from their uniqueness, beauty, truth or verisimilitude. So various are the relations of things, and so peculiar the views taken by different minds of those relations, that we might establish a cosmological grade or sliding scale, answering to the different temperaments, dispositions, education and epochs of those who have indulged in these investigations. Although it is now a well grounded principle of enquiry, that nature is not capricious, but subject to law, and that analogies or correspondence steadily indicate that law, real though unrevealed; yet, the soul of man is of so different a texture in different men, that what will be a source of unending harmony and interweaving dependencies to one, will be to another a fountain of fantastic imagery and foamy fancies. Enthusiasm has ever characterized the heavenly gazers; but it makes one a dreamer—another, a theorist—and the third, a truth seeker. One, it sends after distinction, with a startling paradox; another, after truth, with a great discovery; and again, it bows a third, by a religious spell, in the very midst of the temple whose exploration was intended. Enthusiasm is a warm and fusing sensibility. In our present subject, at least, while it has inflamed enquiry, it has so fused the elements and phenomena of nature with the images and speculations of the mind, that there is left in the crucible many an alloyed system—partly science, partly fancy—here, a theory—there, a fact; yet, altogether, making up a singular result, not unworthy a curious eye and a philosophical ken.

What an illustration of this singular composition, was that solution of the mysteries of creation, which, under the strange title of *Mysterium Cosmographicum*, the great astronomer of Denmark, Tycho, received from a young enthusiast, whose name was thereafter to "make all Europe ring from side to side." It requires little effort of fancy, to picture to our minds the consternation of that silver

haired astronomer, amid the immense materials of science collected at Uraniburg—as he leaves the dead frame work and anatomy of facts, and turns over the strange manuscript, which, in an instant, fills the dry bones with vital and muscular energy—warms the dead heart and inspires the well jointed form with the Promethean spark! Strange though the fire was, there was some divine particle in it; for at the outset, the young enthusiast dared, even then, to state as an imperishable conviction, that *law was omnipresent.* Upon this basis, lo! what a structure! At the time Kepler—for of him we speak—wrote his strange mysterium cosmographicum, the planets were but six in number—at least only six were then known. Now mark the whimsical explanation of their distribution! It so happens in mechanics, that it is possible to make only five solids of different number of faces, so that all the faces of each solid shall be equal to each other, viz: the pyramid, or tetædron; the cube, or hexædron; the solid of eight faces, or octœgron; the solid of twelve faces, or dodecædron; and the solid of twenty faces, or the icosædron. What can all these geometrical terms and solids have to do in relation to the number and dimensions of the planetary orbs! Let Kepler explain. The earth is the ruler of all. Place within the circle of his orbit an icosædron. Draw within this solid of twenty faces, a circle that will touch its faces internally, and you have the orbit of Venus! Within the orbit of Venus, place the octœgron; draw the circle within, and lo! Mercury plays round in his orbit! Presto! Outside the orbit of the earth, place a dodecædron, or solid of twelve faces, and around this draw a circle, and Mars sweeps in his fiery car around his pathway! Outside the orbit of Mars describe a pyramid, and then around it a circle, and Jupiter sails with his convoy of moons! Then a cube, and another circle, and the orbit of Saturn, with his ring, is described! The regular bodies being exhausted, the planets are complete, and their observed distances harmonious with the beauty of geometrical demonstration. Io Pæan!

> See! all things with each other blending,
> Each to all its being lending,
> All on each in turn depending,
> Balanced worlds from change defending;
> While everywhere diffused is Harmony unending!

Yet the young enthusiast whose whimsies we have been considering, was the same Kepler, who, seized with his gigantic intellect the materials of his master—erased hypothesis from the page of science—fixed forever the motions of every planet by the ellipse, and in uniformity—connected their relative distances from the sun with their velocities, and rising even above these great general principles, discovered a yet grander breadth and distinctness in physical phenomena, which eventuated in the sublime consummation of Newton !

We can easily pardon, in such a mind, the fancies of heated enthusiasm. It is not possible to rebuke such a spirit, even though it should fail to discover the Great Infinite Being, whose breath is the harmony of the Universe. The honor which he paid the venerable Tycho, and the reverent and scientific use which he made of Tycho's repertory of observations, rescue his principle generalizations from that class of *a priori* theories, which have done, and are yet doing, true science so much disservice.

How few have been the minds who have served faithfully the interests of science—at once surmounting prejudice and repelling the attractions of fancy. How very few, even in physical cosmogony—where no question of final cause or ultimate purpose was presented—have comprehended the laws of the Universe as a harmonious unity. Newton made the boldest attempt, with success ; La Place the greatest, without. It is indeed questionable to us, whether La Place does not exhibit more genius, in the wonderful construction of his nebular cosmogony, than Newton in the wonderful discovery of the system of gravity. The first invented, made, completed, beautified a theory, which would have been accounted worthy of a God, had not Newton unfolded and displayed the system of the God of the Universe—without which, in its unseen forces, the sun and stars and the gorgeous heavens would rush into ruin, and unpeople the spaces of their glorious habitants !

Of these two systems we will speak in another place. They have done much to establish cosmogonies in our own time. The best men of our age, have endeavored to reconcile them ; and both with a true cosmogony—with what success we shall see. La Place's theory found a graceful

and forcible advocate in Nichol, the Glasgow Professor of Astronomy, who has been called the Aaron to Herschel, the Moses of Astronomy. In his "Solar System," and "Architecture of the Heavens," he endeavors to harmonize all phenomena with the nebular cosmogony; and if he has failed, it must be confessed that the failure is none the less wonderful than if he had succeeded. His last work, the "System of the World," which embodies the results of the Rosse observations, leaves the nebular cosmogony in the rear. With a progressive forwardness, our author leads the way into speculations more original and entrancing. Indeed, he lifts up our soul so gracefully, on the wing of his own pure intellect, into the still and awful Infinitude, and there enchains it with so strange a minstrelsy of beauty and love—replacing it again so softly upon the green home of our earth—that he has, perhaps more than any other, given to Astronomy the glory of poetry, while enrobing it in the sober stole of science. He has the patient, accumulative zeal of Tycho, the modesty and reverence of Newton, mingled with much of La Place's boldness and Kepler's enthusiasm. With the telescope of Rosse at his eye —the calculations and reasonings of the Herschels at his elbow—the voice of Chalmers, eloquent of the God of the Heavens ringing in his ears, and his own soul full of the enquiring and progressive impulse—he goes "on his dim and perilous way," sounding the deeps of the Empyrean, with the golden plummet of Faith, until in awe he bends before the Unchangeable One, and there prostrate—adores!

Dr. Chalmers has lit the "innumerous and eternal stars" with the fire from the Christian altar. Nichol's God is the Supreme Intelligencer of Nature. Chalmer's Divinity is the just Jehovah and merciful Redeemer of Revelation. He has, by his "Astronomical Discourses," hushed the babble and clamor of those, who thought our earth too puny, amid the worlds Astronomy displayed, to be the scene of a sacrifice so great and a condescension so majestic! Perhaps his Christian cosmogony might be enlivened by warmer colors of love and beauty, and thus relieved of those gloomy hues, which a too exclusive contemplation of the sin and misery of our earth has hung over the heavens. But his vindication of the ways of God to men, and the

surveying of the way of men to God, through the Savior, has rescued our sublime science from the hands of the infidel and deist, and at the same time has given force and grandeur to the exclamation of an old English dramatist:

> "I am a nobler substance than the stars!
> I have a will and faculties of choice,
> To do—or not to do: the stars have none."

Another class of cosmogonists, if such they may be strictly termed, are those who leave entirely the observatory and study, to pursue the primrose path of poetry. Milton's anthem of the Creation, and Dante's signal retributions in the Inferno, exemplify the shaping power of the imagination in these lofty themes. Pollock, in his "Course of Time," hath a cosmogony peculiar, though not altogether original. His Universe has two centres; the one, drawing upward the subject orbs in the direction of Heaven; and the other, sucking down all things congenial to the infernal region. Why Heaven is always overhead, and Hell underfoot, we need not stop to enquire. It may serve to amuse those who delight in cracking the nuts of popular fallacy. Pollock's idea is made up of two images. The first may be found in Scott's "Christian Life," where all things evil are pressing down, by an inherent necessity, in search of some hidden magnet of sinfulness. The other occurs in Campbell, where the poet of Hope

> "Counts with seraph eye the starry train,
> Like distant isles embosomed in the main;
> Rapt to the shrine where motion first began
> And life and light in mingling torrent ran,
> From whence each bright rotundity was hurled,
> The THRONE of GOD—the centre of the world!"

The soul is overburdened by the vastitude of the heavenly hosts and interstellar spaces. Not satisfied with determining by the mathematics, the centre of gravity of our Universe—which is located somewhere in the milky way—it rises and aspires toward a spiritual centre, and can only end in—*God!* There is, however, in this connexion, a cosmogony worthy of notice. It is that of LAMBERT, or MAEDLER. It is the idea of a great central sun. The conception is splendid, and not unsupported by phenomena. Our sun, according to HERSCHEL and M. ARGELLANDER, is

moving in some grand path toward a point, out of its home in our galaxy—into the constellation of Hercules. It is not improbable, that it will, in some remote epoch, become naturalized in another firmament; as in some former era, it has moved (with its planets of course,) amid the glories of some other galaxy. The stars all partake of this grand scheme of revolution, and indicate the prevalence of a great arrangement through the whole central mass of our firmament. Hence the idea of a mighty central sun—proportionate to the vastness of this co-ordination—upon the skirts of whose orbits we are moving—which is probably opaque—and which silently and in the "majesty of darkness," guides, through the invisible and irrefragible chords of gravity, the whole celestial mechanism!

Buffon gave the sanction of his distinguished intellect to a cosmogony, which, for grotesque whimsicality, is only surpassed by Tycho's solids. The world had a right to look for a splendid theory from the countryman of La Place; but how different in grandeur and coherency, even from the one just considered, is Buffon's system. He supposed that comets, by impinging on the sun, carried away a torrent of matter, which was reunited afar off into globes of different magnitudes, and at different distances from other stars. These globes cool, and thus gradually become hardened into planets and satellites. In other words, that vagrant of the heavens—the comet, with its thin, vapory, streaming tail—playing its hyperboles around the sun—according to Buffon, is actually engaged in the honest employment of chipping off planets and moons from the sun! What a queer creature must Buffon, the cosmogonist, have been! How he accounted for the appearance of the suns, we have never learned. In this regard, there is a kindred between the system of Buffon, and that famous Eastern cosmogony, which supported the world by an elephant, and placed a tortoise beneath the elephant, but forgot to give the latter a place to stand upon. We would not be unreasonable. Tastes differ. So do cosmogonies. The mind that conceives one—however fantastic, rude, rough or ready—deserves well of its kind. Oh! there is balm and stimulant in the words of the sagacious Herr Teufelsdrockh: "Produce! produce! were it but the pitifullest infinitesmal fraction of a product, produce it in God's

name! 'Tis the utmost thou hast in thee; out with it, then. Up, up!" Under the shadow of a similar sanction, we suppose that most startling of all cosmogonies—spoken of by the Eastern Magi—was conceived. It premises that when Chaos and Old Night ruled the "dusk domesnes" and the formless voids and glooms—light came in all its beauteous benignity, and worlds were hurled into instant existence, by one great, omnipotent—Sn—(pardon us, we say it not irreverently, though we confess to a gentle twinge,) Sneeze! Logically, this last unique cosmogony is as correct as Buffon's; though it be the "pitifullest infinitesmal fraction of a product."

The mind often seeks relief from the scorch and glare of naked truth, in the inversion or distortion of its objects, as well as in its coloring with the hues of fancy. Overpowered by the facts presented in the heavens, and struggling to express the deep significance there written, the world of figures and tropes has almost been exhausted. Some of these have a singular grace and sweet felicity. A German hath called the stars the bright mile-stones on our highway to immortality. Milton, in his "Comus," gives them a pleasing office, when he likens them to lamps hung in heaven, and filled with everlasting oil, to give due light to the lonely and misled. Again, the Universe has been likened to a great book or scroll: the stars, letters; the constellations, words; and the firmaments, illumined leaves of glory. Again: to a great shell, of involutions deep, winding and wondrous, with murmurings in its mystic chambers, like the music of the old crystal spheres, and remembering its august abode in the bosom of the Omniscient One! The readers of Carlyle, are not unfamiliar with the bold trope, which paints the Universe as a tree—its root, the throne; its leaves, the stars; earth, a withered leaf amid the great green constellations, and the music of the stars, just the waving amid the eternal clusters of the one wind-like spirit that pervades all! Coleridge, with more scientific accuracy than poetry, and with his great soul "swelling vast to heaven," says, that surely it is not impossible, that to some infinitely Supreme Being, the whole Universe may be as one plain; the distances between planet and planet, being only as the pores in a grain of sand, and the spaces between system and system, no greater

than the intervals between one grain and the grain adjacent; thus rising to a view of the heavens from the very throne!

But why attempt to give form or comeliness to that which is so multiformly and uniformly beautiful. The best and noblest figure of speech for the Universe, is—SILENCE. Poetry hath exhausted her stores; yet the heavens are no richer to us than they were to the Chaldean. The telescope of science—which displays them as they are, so far as they are visible to its great eye—is the best rhetorician. The spell of its silent eloquence is awful; yet Oh! how transcendantly beautiful and infinitely varied, its mystic intonations for the soul!

Lander says that what is beautiful in poetry, is monstrous in physics and infantile in philosophy. There is much point and pith in the saying. The difficulty consists in its application. There is, we think, a prevalent spirit in the current literature of our day, which fails rightly to discriminate between the three departments of letters abovenamed. There is a certain class, who, vaguely hinting at the omnipotence of truth, confound what is true in poetry with what is true in philosophy, and *vice versa.* If a philosopher cuts the sky into constellations, and marks out triangles and trapezoids, a holy horror seizes them, and their indignant invective is hotly poured in upon his unspiritual soul. If he distinguishes between sensibility and reason, and undertakes to make the laws of each different and their sanction diverse, he is met with buffetings and scorn, as an interloper upon their pre-emptionary mental domain.

There is a golden mean which the judicious will follow in this matter. While they would not forget in their division of the mind into departments and faculties, that the mind is one and inseparable—that the intellectual and sensitive parts are intimately and mysteriously connected, so intimately and mysteriously, that we cannot say of one influence that it operates exclusively upon one faculty or department; still, they would remember at the same time, that it is unphilosophical and absurd to confound these several, and in most regards, independent faculties. Because an influence so slight as to be almost inappreciable upon the reason, may influence the moral nature forever;

or an image, flitting and f int as a shadow's shade, may dim the clear mirror of the imagination, and warp the intellect unalterably, we will not, therefore, give way to those vague generalities, which, by levelling all partitions, boast of securing the unity of Truth.

In no department of enquiry has this confounding process been more generally adopted than in cosmogony. In no cosmogony has it been so splendidly and ingeniously applied, as in the famous nebular hypothesis of La Place. He collected all the observations of science with their results, and fused them all, not by some master effort of intellect in the use of a comprehensive reason; but by pouring a living stream of poetry into them, and moulding them all into the shape of his own pre-conceived fancy. So many of his premises and subsiduary deductions are true, that we almost forget, that the last link in his chain is disconnected and fanciful. The elder Herschel furnished the foundation stones; La Place's mathematics cemented many parts together; but the structure, like that of Aladdin, so rich and unique, was the product of a night—a glorious dream; although the dream of a Jupiter!

So anxious have been the pure and ardent souls of the earth to have one, complete, all-engrossing cosmogony, as a central principle, by which to test and reconcile all the lesser phenomena, that many of them have enlisted under the standard of La Place, resolved, right or wrong, to support and honor its wondrous beauty. The heavy falchion of Herschel flashed in its defence, and his infantry fired manfully in its favor. The saladin stroke of Nichol was uplifted in the cause, and he had almost turned the tide of battle in its favor, when the enginery of Rosse, pointed at the deep files in Orion, resolved the nebulæ into stars—confounded the forces of Nichol, and routed, if they did not destroy, the most formidable opposition. Nichol—who liked Plato, but truth more—gave himself up a prisoner. The field was beginning to be clear; the regular army of astronomical occupation, half oblivious of La Place, were pursuing the old Baconian method of induction, and were gradually entrenching their camp and elevating their position, when lo! there came a solitary knight, "pricking o'er the plaine"—a doughty champion of La Place—Edgar A. Poe, shouting through his trumpet, the classical "Eure-

ka!--" frightening away the gold bugs of story and the ravens of poetry—and altogether making himself the very Quixote of cosm gony! Of him, hereafter.

The importance and peculiarity of La Place's hypothesis, require a more particular enunciation. He saw numerous harmonious adjustments in the machinery of the universe, unaccounted for by any existing law. He not only inferred that the great fabric had an existing life, but a primal constitution. This power of sustaining the great motions of the world, was as different from that which ordained the relationship and co-ordination of the parts, as the vital energy within our frames, differs from the unseen Contriver. From the exquisite order of our system, by which the bodies move ovally, nearly in circles, around the sun, and nearly in the plane of the sun's equator, and in the same direction, and other phenomena, he assumed that there was a natural process, which evolved the world as easily from a central germ, as is evolved from its seed, the tree with its leaves, blossoms and fruitage! The nature of the process is the same in the heavens as in the flower. Each is a growth. The incredulity as to the former is occasioned, not by its nature, but its magnitude. But it is asked, why should its magnitude overwhelm us? An INFINITELY GREAT BEING created the germ, and unfolded its leaves and efflorescence from the "dim treasury" of hue and form. What is great to us, is not great absolutely, and to an absolute one! The flower may be as great to HIM, as the consummation of a world! La Place saw, or thought he saw, this unfolding in the rotary motion, of which the motion of the sun on its axis is the central portion only. He attempted to explain this phenemenon with *some actual order*. Now begins the shaping process of his mind, beyond the reach of observation. The heavens were originally gaseous matter, formless and void; they next exhibited faint commencements of order; they then were characterized by distinct nuclei, gradually increasing in brightness, while the nebulous mass around them became fainter, as if it were being concentrated and absorbed; in fine, their cosmogony consisted in an unbroken series of condensations of this thin filmy substance, whose final term became a fixed star, with only a bur around it—showing what it had been, and not more remarkable than the zodiacal light

which environs our sun. This grand process was transported to the solar sphere. The nebulous stars were regarded as similitudes of our luminary, at different epochs of its past duration. By a capital generalization, as magnificent as that of Newton, only not so true, the whole universe was ensphered in this unity of generation; and the dim, hazy spots in the remote constellations, which could not then be resolved into stars, were regarded as the womb of future worlds—the reservoir, whence the stars, when about to begin their races in space, "repairing with their golden urns," would draw light.

The idea of solid matter springing from the gaseous, and the notion of huge aeriform masses combining to unfold and exercise their wondrous variety of form and use, has ever been looked upon as one, among many of the plausible ideas, to account for the BEGINNING of all things. La Place saw in those dim, nebulous regions—so remote that the speed of light would require millions of years to travel between them and our system—the unceasing energy of God, in the process of expansion and contraction by cold and heat. Bolder than Milton, he stands with the calm and unimpassioned mien of science, and reviews the very spectacle of creation. His hypothesis is the finest exhibition the world has ever seen of a system, supported by probabilities, yet unsustained by fact. It mingles so much truth-likeness with conjecture, that we can neither give it the highest heaven of truth, nor the nethermost region of fallacy; so that we must place it in a sort of Paradise, or Purgatory, there to be purified of its errors, and amended by the careful induction of the scientific; until like a star from one of the embryo clusters whose existence it suggests, it shall shine forth in the full orbed glory of Truth!

Our illustrations are completed. We have not yet, however, considered some of the parts which a cosmogony includes. Most of our illustrations have reference to the essence and origin of our universe and its present condition, and not to its destiny and spiritual governance. To encompass our subject demands an array of facts, and power of scope, not yet vouchsafed. But science is pluming her wing, and the wonders of the deep night of stars and nebulæ are unfolding. Already the secrets of those worlds, so far off that light travels from them in thirty millions of

years, are being whispered through the medium of the telescope. As yet, the beginning of the science of cosmogony would almost seem rash; its conclusion impossible; its comprehension would call for an amount of confidence confessedly sublime. Its field is vast; the range varied. The geologist gives to it the eternal rocks, with their histories of millions of centuries, collected by flood and written in fire; the chemist, the subtle, elusive elements, with their combinations and forces; the physiologist, the frame, wherein the life—*the object of all this universe*—hath burned and yet burneth; the pscychologist, the soul—the noblest form of life, the image of the Creator—with its hopes and fears, joys and sorrows, faiths and reasons; the astronomer unrolls the scrolls of the sky, and with silent finger, points out the comets, the strange ethers and fluids, the zodiacal light, the nebulæ and the suns and stars; and the man of God opens the pages of inspiration, with its retributions and joys, promises and glories—with the law thundered forth upon Sinai, and the love of the Father falling from the lip of the only Son! He who would read the volume of creation in the light of Truth, must take the glass in one hand, and in the other, the Bible. With lofty scope and humble love, he may at once resolve the nebulæ of the remotest constellation with Rosse; and, as the wondrous works of God swell in his soul, exclaim, with the enraptured Nichol: "the incomprehensible is the real. The laws and order of existence on the grandest scale, are not compressed among the processes and phenomena around our homes. Yes! the infinite we had built up, after the fashion of what had become familiar, was yet, with all its greatness, an IDOLA, and could neither fill space nor time. It was indeed a grand and noble temple, but not the temple of the universe—issuing from the depths of whose awful adyta, that solemn appeal again seems heard: *Hast thou an arm like God, or canst thou thunder with a voice like Him?—Gird up thy loins and declare! Canst thou bind the sweet influences of the Pleiades; or loosen the bands of Orion? Canst thou bring forth Mazzaboth in his season; or bind Arcturus with his stars?*

The two remaining queries, as to the mode of investigation to be followed by the cosmogonist; and as to the current and most reliable system—we must defer to a future

number. From what we have seen, let us draw this lesson, that nothing has been more frequent, either formerly or at present, than for theorists to mistake the place, importance, strength and relation of their systems. For the sake of true enquiry, we regret that tendency to apotheosis which is exhibited by the best minds often, toward the wild vagarist and poetical dreamer. Beware of it, oh my truth loving friend. It is the grave of science—the knell of intellectual freedom. Have you read, and do you not remember that the fervent admirers of La Place—hurried into the forgetfulness of the grounds and essential character of his bold theory—proposed that astronomers, having overturned their tables, and broken their telescopes, should thenceforward study the complexities and facts of our system only through the doctrine of its nebulous parentage? Away with all meritricious honor! If you revere any, remember the laborer! Give to baseless hypothesis too much consideration, and you supplant the labors of Uraniburg and Greenwich—degrade the Halleys, Maskelyns and Bradleys, of former times, and the Bessels, Airys, Herschels, Mitchels and Nichols, of our own time. You hear much said about the sanction of the intuition of genius, and the "sacred fury" of Kepler, with his wild guesses. When you hear this, suspect the promulgator either for one of your dapper intellectual dandies, using elegant verbiage to cover a dainty and debilitating spiritualism; or for one of your unmitigated and incorrigible dunces, floundering through facts, of whose colligation and generalization he is immaculately innocent. When they speak of Kepler's bold theory, ask the nature of his theorizing, without the labors of Tycho. When they eulogize La Place; ask if intuition can make a telescope, or resolve a nebulous spot. When they speak of dull plodding and mechanical mapping, amid the heavens, ask where all the great discoverers would have been, without them. How were the double stars enumerated through long years by Struve and Herschel; how were their different hues revealed, their size, their revolutions around each other; how was the parallax of 61 Cyngi discovered by Bessel; of a Lyræ by Struve; and Centauri by Henderson; thus revealing their mighty distances, while bringing them forth from their remote mystery. These are some of the fairest flowers of modern sie-

ence; and they have grown under a patient and laborious watching. These are the conquests that shed no blood—leave no tears. They ennoble the age and the country in which they are divulged. They react upon the moral, and elevate the religious character of mankind. They inform the soul with the idea of an all-ensphering LAW. They thus bend us in awe before the Supreme Ruler. They teach us, that His law, of itself, is no substantive and independent power—no casual influence out of blind Necessity—no energetic essence, free from an Almighty will; but that it is an order, originated and upheld by the living God, and comprehending the tiniest gold particle which lives by virtue of the gravitating power, and the most splendid sun that glows and rolls through space. Can man, whose life is so much more important than the mightiest star, be unsubjected to that great law? Oh! if we would cautiously and reverentially approach this august theme, we would find more and more meaning in the high ordinances of the Eternal, in regard to the imagery of the material world, and its relation to the spiritual world. Their contemplation is only beautiful and ennobling, when viewed as a unity, reflecting the unity of God. The all-pervading presence of the beautiful and good, assures us, that we belong to a firm and beneficent order. This inspires a confidence in the philosopher—makes him a Seer, and enables him to gather from analogy, the germs of mighty truths, which will "bud and blossom and effloresce into manifold forms, varying with every degree of intelligence, and every shade of moral sensibility." It comes to the poet, enveiling the vaulted canopy—enmantling the earth—enriching the spirit with its pearls of loveliness, and rendering the walls

> "That close the universe with crystal in
> Eloquent with voices that proclaim
> The unseen glories of Immensity,
> In harmonies too perfect and too high
> For aught but beings of celestial mould,
> And speaks to man in an eternal hymn
> Unfading beauty and unyielding power!

This UNITY, attended by the spirits of truth and beauty, hath ever been sung by the selectest genius of the earth, and shadowed forth by the elect oracles of heaven. Plato taught it to enraptured auditors, amid the olives of Acade-

mus. Modern science hath verified it, by the minutest scrutiny. It is in every cosmogony, the alpha and omega. The finest web of being is thrilled and pervaded by its omnipresence. It inspires every effort to ennoble mankind, by bringing brother near brother, and binding them by a common vinculum. The most abject son of misery upon earth, and the loftiest seraph above, trace through its means, their several currents of existence, up to the one central fountain of Infinite Love! In its perfect comprehension lies the fate, the greatest genius will never vanquish. Here, science stands remote, trembling and abashed. The unrepresentible is here. Here at last, the soul—wearied and faint, from its ineffectual struggling with the Infinite—sinks sweetly and peacefully on its pillow of repose, and meets an evening of dim delight and mysterious musing, which refreshes, if it does not satisfy, the yearning of the immortal Nature. It is a charmed circle. Within it is *Eternity*. Thou canst never break its spell. It is in thee—about thee—has been ever—and will forever be. In all thy steps, through space and time, the unbroken Unity of the "life beyond life," hath arisen; yet only seen as through a glass darkly—peradventure to be seen in its noon-like splendor, in that era of thy being, when the "sun shall no more be thy light by day; neither for brightness shall the moon give light; BUT THE LORD SHALL BE THY EVERLASTING LIGHT, AND THY GOD THY GLORY!"

## Art. XX.—THE REPUBLIC.

Let us take a present and prospective glance at our Republic. The area of all the States, except Texas, is 1,100,940 square miles, or 704,582,400 acres. The area of the present territories of the Republic, including Texas and the recent acquisitions, is 2,187,496 square miles, or 1,399,997,440 acres. Supposing the above items to embrace the entire extent of the Republic, we have an area of 3,288,436 square miles, or an aggregate of 2,104,599,040 acres.

If from this amount we deduct the area of the old States whose soil never belonged to the United States Government, we shall have about 1,780,398,865 acres, which is and has been owned by the Republic. Of this extent, only about 152,026,003* have yet been disposed of, leaving 1,628,372,862† acres yet to be disposed of. We will here make a calculation for ourselves—this Review furnishing all the requisite data. During the past ten years there has been sold in whole numbers 22,000,000 of acres. Allowing an increase in the sales of 30 per cent. for every decade, or period of ten years, and it will take one hundred and twenty years to dispose of the lands now unsold. But thirty per cent. is probably too great an increase for a long period to come; for at this rate there will be sold in 1958, 300,000,000 of acres, and in 1968, 390,000,000 of acres! We can scarcely conceive it possible that this amount of land will be disposed of in one year. But as we cannot throw our minds into the future and see what will be, let us approximate the truth. The increase of the population of the Republic for the last fifty years has been as follows:

* The Land Office Report for 1848. On page 36 No. 1 of this work, it is estimated at 142,068,623 acres gathered from all the data then within our reach.

† The Land Office Report says 1,442,217,197 acres, but entire accuracy is not possible until the territory is surveyed,

| *Years.* | *Population.* | *Increase.* |
|---|---|---|
| 1790 | 3,929,827 | |
| 1800 | 5,305,941 | 34 per cent. |
| 1810 | 7,239,814 | 37 " " |
| 1820 | 9,654,596 | 33⅓ " " |
| 1830 | 12,866,020 | 33⅓ " " |
| 1840 | 17,068,666 | 33⅓ " " |

Here we find an increase of 435 per cent. from 1790 to 1840, a period of fifty years. For the past forty years we observe a very steady increase of 33⅓ per cent. This increase we have reason to believe will continue until the lands are all taken up. We would suppose the sales would increase in the same rate as the population; it undoubtedly would, all things being equal. To show the sales we will give the following table:

| YEAR. | ACRES. | YEAR. | ACRES. |
|---|---|---|---|
| 1830 | 1,929,732 | 1840 | 2,236,889 |
| 1831 | 2,777,856 | 1841 | 1,164.796 |
| 1833 | 3,856,227 | 1842 | 1,129,217 |
| 1834 | 4,658,218 | 1843 | 1.605,264 |
| 1835 | 12,554,478 | 1844 | 1.754,763 |
| 1836 | 20,074,870 | 1845 | 1,843,527 |
| 1837 | 5,601,103 | 1846 | 1,924,697 |
| 1838 | 3,414,907 | 1847 | 2,526,600 |
| 1839 | 4,976,381 | 1848 | 2,521,305 |

The fourth quarter of 1846 estimated, and the acres sold in 1847 are calculated from the money received.

In the above table we see a regular increase from 1830 1836, and a regular decrease from 1836 to 1842, when the increase began again. The large amount sold to speculators between 1833 and 1839, has doubtless diminished the sales from 1841 to 1846. Speculators have been selling to settlers, and now that these second-hand sales have ceased we observe a tendency upward. Could a uniform policy be pursued, the sales would doubtless increase in an equal ratio with the population. If they shall thus increase, the following interesting statement will be realized: For the ten years ending in 1848, 22,000,000 acres were sold. With an increase of 33⅓ per cent. the sales were as follows, in whole numbers:

| YEARS. | ACRES SOLD. |
|---|---|
| 1858, | 29,000,000 |
| 1868, | 39,000,000 |
| 1878, | 52,000,000 |
| 1888, | 69,000,000 |
| 1898, | 92,000,000 |
| 1908, | 123,000.000 |
| 1918, | 164,000,000 |
| 1928, | 219,000,000 |
| 1938, | 292,000,000 |
| 1948, | 389,000,000 |
| 1958, | 519,000,000 |

This more than covers the whole remaining unsold. Is it probable then, that about the middle of the twentieth century all our domain will be sold, provided no more be acquired? Will the people begin to inquire, in the course of one hundred years, "where shall we go?" Will there, then, be no unoccupied land for those who may be born into the world?

At the same rate of increase, the population will be in

| YEARS. | POPULATION. | POP. SQ. MILES. |
|---|---|---|
| 1840, | 17,068,666 | 6 |
| 1850, | 22,758,221 | 8 |
| 1860, | 30,344,295 | 10 |
| 1870, | 40,459,060 | 13 |
| 1880, | 53,945,417 | 18 |
| 1890, | 71,927,223 | 24 |
| 1900, | 95,902,964 | 32 |
| 1910, | 127,870,617 | 43 |
| 1920, | 170,494,156 | 57 |
| 1930, | 227,325,641 | 76 |
| 1940, | 303,100,853 | 101 |
| 1950, | 404,134,470 | 135 |
| 1960, | 538,845,960 | 180 |
| 1970, | 718,461,280 | 239 |
| 1980, | 957,948,373 | 319 |
| 1990, | 1,277,264,447 | 426 |
| 2000, | 1,703,019,332 | 560 |

Here we find the population in 1960, when the lands are supposed to be all appropriated, increased to about 539,000,000. The occupation of all the lands will not make

any apparent difference in the increase of population for perhaps half a century. We have, therefore, continued the estimate to the year 2,000, when we find it will reach the extent to which the population of the Republic can reach without a material diminution of comfort. The maximum is put in a previous article at 1,690,000,000.

All the land of England and Wales has been appropriated for many centuries; and yet the population has increased one hundred and twenty-five per cent. during the past seventy-three years, or nearly eighteen per cent. for each decade—being three-fifths of the present rate of increase in our Republic. To show this fact, we give the following table of the population of England and Wales for periods specified:

| YEARS. | POPULATION. | YEARS. | POPULATION. |
|---|---|---|---|
| 1770, | 7,100,000 | 1815, | 11,300,000 |
| 1800, | 9,200,000 | 1843, | 16,500,000 |

The population of France has increased slowly, notwithstanding the dispensation in behalf of the people, made in the Revolutions of 1780 and 1793. We give the following table:

| YEARS. | POPULATION. | YEARS. | POPULATION. |
|---|---|---|---|
| 1780, | 24,500,000 | 1810, | 29,500,000 |
| 1790, | 25,300,000 | 1820, | 30,400,000 |
| 1800, | 27,200,000 | 1830, | 32,500,000 |

Here we have an increase in fifty years, of 33⅓ per cent.

These tables show us that we cannot argue with much certainty, concerning the rate at which population will increase in this country after poverty shall begin to pinch the people. From 1960 to 2000, we perhaps should put the increase at less than 33⅓ per cent.; but we cannot think in should be put for that period of forty years, at less than 20 per cent. for each decade. At this rate, the population will be in

| YEARS. | POPULATION. | POP. SQ. M. | YEARS. | POPULATION. | POP. SQ. M. |
|---|---|---|---|---|---|
| 1970, | 646,615,152 | 215 | 1990, | 931,113,818 | 310 |
| 1980, | 775,928,182 | 258 | 2000, | 1,117,356,581 | 372 |

De Witt Clinton calculated that the State of New York could support 12,000,000 souls. Supposing the whole territory of the Republic to average as good as that of New York, the republic can support, according to Clinton's es-

timate, 800,000,000; nearly fifty per cent. less than the population will be in the year 2000, by our calculations.

But it is not well to confine our attention to the bright side of this magnificent picture, for there is a dark side with which we must become familiar in order to be induced to discharge our whole duty. Let us approximate a true estimate of the condition of the people about the year 2000.

We will divide this period of 150 years, into three epochs.

1. The time spent in disposing of all the public lands.
2. The time before all the lands will command ten dollars per acre.
3. The time to fill up the space of 150 years, counting from 1850 to 2000.

During the first period, pauperism will not increase as fast as the population, because the poor will be constantly leaving the older States, to obtain an independence in the west.

During the second period, pauperism will, at least, keep pace with the population, because the improvident will not be able to obtain land from which to get a support. Every candid reasoner will acknowledge that we have made too favorable an estimate here; but we will let it pass, and proceed to calculate the increase of pauperism for the third period.

In 1950, the lands will all be sold, and the population will be about 400,000,000 souls. In 1960, the price of all the lands will reach ten dollars per acre. The population per square mile in 1960, will be 180. The lands of New York have already reached ten dollars per acre, and the population is but 52 to the square mile; so that the reader will see that we are much below the mark in our estimate. But many causes will operate to keep the prices at a much lower rate than they are in New York, and we may rely upon our estimates as below rather than above the truth.

The population of Great Britain, including Ireland, will be in 1850, 250 per square mile, calling the population 30,000,000, which it will reach by that time. In 1833, the population was about 24,000,000, being 197 to the square mile. At that period every foot of land commanded more than ten dollars. The population of Great Britain alone, in 1800, was 9,200,000, or about 93 persons to the square

mile. At that time every acre of land was worth more than ten dollars. Is it not safe then to begin the parallel between Great Britain from 1803 to 1843, and our Republic from 1960 to 2000—being equal periods of time. Great Britain has the advantage of half the population per square mile that this Republic will have; but there are in our institutions some causes operating more for the people, and we will allow this difference in favor of the old country.

The expense of pauperism in cash and in wheat, in England and Wales, was as follows:

| YEARS. | IN MONEY. | IN WHEAT. | PRICE PER QR. |
|---|---|---|---|
| 1803, | £4,077,891 | 1,209,756 | 56*s.* 5*d.* |
| 1812, | 6,656,105 | 1,061,438 | 125*s.* 5*d.* |
| 1813, | 6,294,584 | 1,157,675 | 108*s.* 9*d.* |
| 1814, | 5,418,045 | 1,484,615 | 73*s.* 4*d.* |
| 1815, | 6,128,844 | 1,905,703 | 64*s.* 4*d.* |
| 1821, | 6,358,703 | 2,250,868 | 56*s.* 6*d.* |
| 1822, | 5,772,958 | 2,669,762 | 43*s.* 3*d.* |

At first sight the reader might conclude that little can be made out of this table, inasmuch as the cost of pauperism in 1822, was less by nearly a million of pounds, than in 1812. But look again. Take notice of the amount of wheat the respective sums would buy at the times when expended. Consider also the gradual decline in the price of wheat from 1812 to 1822, and that as the means of living become cheaper pauperism diminishes. The price of food makes no difference in the amount necessary to sustain life, and when the government allows a fixed rate, the quantity consumed will indicate in any given period the increase or decrease of the number of consumers. By this rule, looking at the fourth column in the above table, we have an increase of pauperism from 1812 to 1822, of 165 per cent. During this period, the population increased about 15 per cent., being to the paupers as one to eleven. During this period the means of living decreased in price, as is seen in the fourth column, about 300 per cent.; so that the times were 300 per cent. better, if we may use the expression. No one will deny that this would make some difference in the number of paupers. Indeed this is proved by reference to the number of families relieved at the different periods. In 1803, when wheat was 56*s.* 5*d.*

per quarter, the number of families relieved was 725,566; and in 1814, when wheat was 64*s*. 6*d*. per quarter, the number was 939,977, showing an increase of about 30 per cent. Now mark,—in 1813 and 1814, when the price of wheat was 108*s*. 9*d*. and 73*s*. 4*d*., the number was respectively 971,913 for 1813, and 953,915 for 1814; showing a much less number relieved a year later, when the price of wheat was about 33⅓ per cent. cheaper.

From 1822 to 1846, the price of wheat has been quite uniform. Had we the tables for this period, something quite definite could be determined. We have but one item, embracing a period of four years from 1839 to 1843, during which time says the Am. Quar. Review, the number of paupers of England increased 8 per cent. per annum, or 32 per cent. for the term, while the population increased but 1⅓ per cent. per annum, or 5⅓ per cent. for the term. The numbers were, in

| | |
|---|---|
| 1839, - - - - | 1,199,529 |
| 1843, - - - - | 1,539,490 |

Even this calculation is made at an unfavorable time for getting a large account of pauperism; for in 1839, wheat was higher than in any year since 1814, being 70*s*. 8*d*. per quarter, affording a fair chance for a large pauper list; while the price of wheat in 1843, was lower than in any year since 1800 save one, being 51*s*. 3*d*. per quarter. Here we find a difference of 30 per cent. in the price of wheat, to be credited for as much as it is worth to the pauper estimate for 1839-43.

Is it not safe, then, to conclude that the paupers of the British isles increase six times as fast as the population; that while the latter increases 1½ per cent. per annum, the former increase 9 per cent. per year? That the aggregate increase of pauperism during the past 40 years, has been more than this rate, or 360 per cent. for the whole term, is evident from all the records.

We have supposed from good data, that the past forty years of Britain would give us a knowledge of the forty years of the U. States, from 1960 to 2000. For difference of institutions and other circumstances, we will make a most liberal allowance of 33⅓ per cent in favor of our Republic. This will give the increase of pauperism from 1950 at 6 per cent. per annum, or 240 per cent. for the whole term.

Let us now calculate the number of paupers that will be among us in 1960.

In 1844, New York had 155,132 paupers, 97,000 of whom belonged out of the city and county of New York. This gives a proportion to the population of 1 to 17 in the whole State, and 1 to 27 in the country.

In Massachusetts, when the population per square mile in 1844, was about 90—half that of the whole Republic in 1960—the paupers numbered about one to 90 of the population.

Two considerations must be mentioned in favor of these States; their paupers are increased by emigration from foreign countries, and more of the population that would not be paupers, go west, in proportion than of those who would be did they stay; so that in these respects their paupers increase faster than they would were the population fixed.

We are safe, therefore, in putting the pauperism in 1960, at 1 to every 50 of the population. This will give 10,776,-919 as the pauper list of that date. We have already calculated 6 per cent. per annum as the increase after 1960, or 60 per cent. for every decade. The account will then stand thus.

| YEARS. | PAUPERS. | PROPORTION TO POP. |
|---|---|---|
| 1960, | 10,000,000 | 1 to 50 |
| 1970, | 16,000,000 | 1 to 43 |
| 1980, | 25,600,000 | 1 to 31 |
| 1990, | 40,960,090 | 1 to 23 |
| 2000, | 65,636,000 | 1 to 17 |

Considering the result here obtained, we are the more persuaded that our calculations have approximated very nearly the true result. It is to be understood, however, that the causes at present in operation will continue, in order to realize this result. That many great changes in the causes will take place, we have no doubt; but these must be made by the people, and the people need the above startling facts to convince them of the necessity of vigilance and energy in the great cause of Progress.

## Art. XXI.—REVIEW OF EDUCATION AND CRIME.

Who says that disquisitions on Education are trite and uninteresting? Who will pass over a paper on this subject as if it was a theme of such frequent discourse as to afford nothing fresh, sprightly, or stirring? Let such pause a moment, while we tell them a tale in real life.

Over yonder, in that large, square, barn-like looking brick house, situated on that large and well cultivated farm, is a man—or rather the wreck of what was designed to be a man—who has been brought to that Poor-House to finish the life-struggle which he has waged with such desperate odds. You see him as he is—it is no delusive appearance—covered with scars and bruises. His body is emaciated, his countenance haggard, his only remaining eye is blood-shot and almost sightless, and the light of his mind is nearly extinguished. The history of this man is one of sorrow. He is the brother of a Governor who has lost all remembrance of him, for they were separated in boyhood, the one to be the adopted son of a good and wealthy man, and the other to follow the fortunes of his indigent, unfortunate, and society-abandoned parents. The one was placed under the happiest influences, and grew up the admiration of all who knew him; the other, the more beloved by his parents, and, in fact, the better endowed by nature, was doomed to pass his younger years amid all that is vile, and graduate into manhood hated by others and hunted down by society. The one was led along in virtue's beauteous way by many guardian spirits, and all was gratifying and happy; the other, inclined to good, felt on all sides the influence of vice and poverty crowding him downward and tarnishing the brightness of his nature. The one was placed above want, and taught to be generous; the other, whose parents, unable to sup-

port their family, were ashamed to beg or receive alms, was taught to steal a supply what they felt unable to otherwise procure. The one enjoyed the company of the rich, the talented and the good, and on many nights feasted and enjoyed almost an intoxication of delight with his friends, while his poor brother, superior to him in infancy, was carousing in the brothel, brooding over his sins and the sad misfortunes of his life in a dark cell of a prison, with chains and manacles for his associates. The one married him a beautiful wife, the object of his young, undying love, and he was happy, surrounded with every blessing; the other loved also, with all of passion's power, and he married, resolving to live under the influence of her virtue and innocence; but the story of his life was borne to her friends, who forced her from his fireside and dashed all his fond household deities to the ground. The one now spends his decline amid every comfort, surrounded by fond children, and he glides downward to the grave, or, rather, upward to the skies, with joy and not with grief; while the other is where we see him, pitied by few, despised by many, and an object of loathsomeness to all. The one is winding up a life that is full of pleasing reminiscences, and has been a blessing to society, the other is closing an existence that has been a curse to the world and a woe to him,—but not more a curse to the world than the world has been a curse to him. The one is an example of EDUCATION; the other of IGNORANCE.

Had the parents of the poor tenant of the Alms-House, received that early culture to which all are entitled, and which it is an eternal wrong to withhold, this boy would have been the true model of a man. But as it was, he proved more expensive to society than his thorough education would have been. He proved an illustration that will answer for all the paupers and criminals of the land. Ignorance was the sole cause of his degredation, and Ignorance alone is that evil genius that has founded all our Poor-Houses, Jails, and Penitentiaries, and filled them with the multitudes it has cursed.

But we will not stop to theorize—we have done with this. It is folly to philosophise while facts proclaim on all hands, the unvarnished truth in all its startling reality. The reader is not asked to believe what we might have to

say, but is pointed to the facts as they are in practice, that he may see for himself.

We shall give statistics showing the reign of ignorance among the criminals of the world.

In 1843, of 1778 convicts in the Eastern Penitentiary, 906 could not read and write. The population of Pennsylvania, in 1840, who could read and write, was 765,917, and the number that could not read and write, was 35,394—being 1 to 21 of the former, while more than half the convicts mentioned above were from the latter. Were not education effectual in staying the hand of crime, 1690 should have been able to read and write, and only 88 without this ability. Here we have nearly 2,000 per cent. in favor of Education.

In 1846, the number received into the Jails and Houses of Correction in Massachusetts, was 6,544, of whom 953 were debtors. Of these, 4,381 were unable to read and write. It is probable that most of the debtors could read and write, so that the proportion among the really criminal who are thus ignorant, is still greater. Suppose 700 of the debtors could read and write, and 253 could not, we must deduct them from the aggregate, because it is too late in the day to call a debtor a criminal. We shall thus have 1,716 who could read and write, and 4,128 who could not—or nearly one of the former to two and a half of the latter. In 1847, the number in the Jails and Houses of Correction of Mass., was 7,009, of whom 1,060 were debtors. Of these, 32,70 were able to read and write. Suppose 800 of the debtors could read and write, there would then be 1,570 able to read and write, and 5,179 of the criminals who could not read and write,—being nearly one of the educated to three and a half of the ignorant. In 1840, the number in Massachusetts who could read and write, was 403,761—unable do. 4,448—a little over 1 to 100. Were not ignorance the cause of crime, there ought to have been only 58 in the Jails and Houses of Corrrection who could not read and write, instead of 4,128; and in 1847, there ought to have been only 68 instead of 6,179. We have in these cases from 5,000 to 7,500 per cent. in favor of Education as a preventive of crime.

In the Ohio Penitentiary, in 1847, there were 445 convicts, of whom 297 are reported as being able to read and

write. Of the 297, about 100 were taught in the prison, so that really 248 of the whole number are from the class of total ignorance. In 1840, the number of the population of Ohio who could read and write, was 638,649—could not do. 35,394, being 1 to 21—that is, there ought to have been twenty-one times as many among the convicts who could read and write, as could not. Here we have 2,300 per cent in favor of Education.

The whole number of convicts received in the Eastern Penitentiary of Pennsylvania, from the first up to 1844, was 1,916. Of these, 945 could read and write, 447 could read only, and 524 could not read and write. It is proper to remark here, that an ability to merely read, is of little service in a moral point of view. Indeed, we might say the same of the ability to merely read and write; for an effectual education must go to the thoughts and feelings of the individual—it must give him the complete command of himself, and enable him to comprehend the true object of life, and understand the momentous import of his existence. Viewed in this light, we shall not find even a small per cent. of educated criminals, in our Jails and Penitentiaries.

The ability to read and write is of little service in morals unless that ability be exercised; and we shall find it not a singular fact, that of all the convicts who can read and write, but the smallest appreciable number have used the acquirement as a channel for information and improvement. This being the case, they are as if they could not read and write, and all, but an occasional one of such miss-balance as to be deformed, should be included among the totally ignorant.

If we turn to the old world, we shall find our pathway full of facts enforcing the doctrine which we now announce, that a true Education—such as every one is entitled to by the rights of his existence—will banish crime from the earth. France furnishes the following table:

TABLE

*Showing the state of Education among the Criminals of France.*

| UNABLE TO READ OR WRITE. | | | | | ABLE TO READ IMPERFECTLY. | | | | | ABLE TO READ AND WRITE WELL. | | | | | RESPECTABLY EDUCATED. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Crimes against the person. | Crimes against property. | Total | No. Acquitted. | No. Convicted | Year | Crimes against the person. | Crimes against property. | Total | No. Acquitted. | No. Convicted | Year | Crimes against the person | Crimes against property. | Total | No. Acquitted. | No. Convicted | Year | Crimes against the person. | Crimes against property. | Total | No. Acquitted. | No. Convicted |
| 1828 | 1,009 | 3,157 | 4,166 | 1,589 | 2,027 | 1828 | 505 | 1,353 | 1,858 | 715 | 1,143 | 1828 | 215 | 565 | 780 | 342 | 438 | 1828 | 36 | 82 | 118 | 77 | 41 |
| 1829 | 1,063 | 3,460 | 4,523 | 1,696 | 2,827 | 1829 | 416 | 1,450 | 1,947 | 787 | 1,160 | 1829 | 185 | 544 | 729 | 325 | 404 | 1829 | 46 | 124 | 170 | 89 | 81 |
| 1830 | 990 | 3,329 | 4,319 | 1,654 | 2,665 | 1830 | 465 | 1,361 | 1,826 | 766 | 1,060 | 1830 | 174 | 574 | 688 | 330 | 358 | 1830 | 37 | 92 | 129 | 82 | 47 |
| 1831 | 1,144 | 3,456 | 4,600 | 1,948 | 2,652 | 1831 | 568 | 1,379 | 2,047 | 1,040 | 1,047 | 1831 | 224 | 533 | 767 | 426 | 341 | 1831 | 96 | 92 | 190 | 102 | 88 |
| 1832 | 1,833 | 3,416 | 4,749 | 1,883 | 2,855 | 1832 | 850 | 1,606 | 2,456 | 1,162 | 1,294 | 183 | 292 | 483 | 775 | 373 | 402 | 1832 | 169 | 88 | 257 | 162 | 95 |
| | 5,539 | 16,818 | 22,357 | 8,720 | 13,637 | | 2,884 | 7,250 | 10,134 | 4,430 | 5,704 | | 1,110 | 2,699 | 3,739 | 1,796 | 1,943 | | 386 | 478 | 864 | 542 | 322 |

From this table, we find the crimes distributed among various classes as follows:

| | |
|---|---|
| Unable to read or write, - - - | 22,357 |
| Able to read imperfectly, - - - | 10,134 |
| Total of Ignorance, - - - | 32,491 |
| Able to read and write well, - - | 3,739 |
| Respectably educated, - - - - | 864 |
| Total of Education, - - - | 4,603 |

These are the aggregates of crimes charged against individuals. Those proved, or the number convicted, are as follows:

| | |
|---|---|
| Unable to read or write, - - - | 13,637 |
| Able to read imperfectly, - - - | 5,774 |
| Total of Ignorance, - - - | 19,341 |
| Able to read and write well, - - | 1,913 |
| Respectably educated, - - - | 322 |
| Total of Education, - - | 2,265 |

Of the crimes charged, we find the proportion between Ignorance and Education, as 1 to 8; and of crimes convicted, as 1 to 8½. The population of France was 32,561,563, and the proportion who could read and write, was, to those without this ability, as 38 to 190. In these facts we have about 700 per cent. in favor of Education. Indeed, this would be a much greater per cent. if we could deduct from the class of ignorance, the children who cannot read, and are not among the criminal lists.

If we cross the channel into Great Britain, we shall find the facts equally gratifying. In the reports of the Prison Discipline Society, we find that Rev. James Brown, chaplain of Norwich Castle, Norfolk, England, says that, "from January, 1825, to March, 1826, 400 prisoners came under my examination; of these, 173 could neither read nor write; 28 merely knew the alphabet; 49 could read very imperfectly, so as not to be able to obtain any information by it; 51 could read only; and 99 could read and write."

He also states, that "among those who have learned to read and write, there exists a lamentable ignorance of moral and religious duties."

In Porter's work on the Progress of the British Empire, we find the following facts:

In twenty counties of England and Wales, with a population of 8,724,338 persons, there were only 59 instructed convicts for 1840; while in the 32 remaining counties there was but one instructed convict, that is, who had received more than the rudest elements of instruction. Middlesex, the Metropolitan county, with 1,576,616 inhabitants, did not furnish an educated convict. Among the 59 mentioned above, 15 were political offenders.

In 1841, fifteen English counties furnished 17 instructed convicts out of a population of 9,569,064; while the remaining counties of England and the whole of Wales, did not furnish one convict out of a population of 6,342,661 who had received more than the mere elements of instruction. It must be remembered to the credit of Education, that out of the 109 accused persons who had been educated, but one was a female; while among the uneducated convicts one-fourth are females.

The following are the criminal returns for England and Wales, from 1836 to 1841:

1. *Neither read nor write.*

| | MALES. | FEMALES. |
|---|---|---|
| 1836, | 5,598 | 1,435 |
| 1837, | 6,684 | 1,780 |
| 1838, | 6,342 | 1,601 |
| 1839, | 6,487 | 1,709 |
| 1840, | 7,145 | 1,913 |
| 1841, | 7,312 | 1,908 |

2. *Persons who can read only, or read and write imperfectly.*

| | MALES. | FEMALES. |
|---|---|---|
| 1836, | 8,968 | 2,015 |
| 1837, | 10,147 | 2,151 |
| 1838, | 10,008 | 2,326 |
| 1839, | 10,523 | 2,548 |
| 1840, | 12,151 | 2,958 |
| 1841, | 12,742 | 2,990 |

3. *Persons who could read and write well.*

| | MALES. | FEMALES. |
|---|---|---|
| 1836, | 2,016 | 199 |
| 1837, | 2,057 | 177 |
| 1838, | 2,051 | 206 |
| 1839, | 2,201 | 261 |
| 1840, | 2,038 | 215 |
| 1841, | 1,839 | 214 |

4. *Persons who received instruction beyond the elementary branches of reading and writing.*

| | MALES. | FEMALES. |
|---|---|---|
| 1836, | 176 | 16 |
| 1837, | 98 | 3 |
| 1838, | 74 | 5 |
| 1839, | 74 | 4 |
| 1840, | 100 | 1 |
| 1841, | 126 | |

The number for 1841—126—was found afterwards to be only 109. Besides these, about 500 per year of males, and 100 of females, were undetermined as to education.

In England, in 1841, the offenders were to the population as 1 to 573 while in Scotland they were as 1 to 742; the difference being due to superior education in Scotland.

In the same work, we find the following satisfactory statement in relation to the regenerating power of education:

"In the island of Iceland, there is no such thing to be found as a man or woman—not decidedly deficient in mental capacity—who cannot read and write well, while the greater part of all classes of the inhabitants have mastered several of the higher branches of education, including a knowledge of modern languages and an acquaintance with classical literature."

Being at the verge of the Arctic circle, but few hours of the day can be devoted to labor out-doors.

"Every account of these people that has been published, agrees in describing them as gentle and peaceable in their dispositions; sober, moral, and religious in their habits. Crimes among them are hardly known. The house of correction at Reickiavich, the capital of the island, after having stood empty for years, was at length converted into a residence for the Governor, by whom it has since been occupied. The island is subject to the penal code of Denmark, which awards the penalty of death to murder and some other heinous offences. It is said that only three or four capital convictions have occurred during the

last two centuries; the last of these happened some years before the visit of Sir G. Mackenzie and Dr. Holland, in 1810; it was of a peasant for the murder of his wife, and on that occasion it was not possible to find any one on the island who could be induced to perform the office of executioner, so that it became necessary to send the man to Norway, that the sentence might be carried into effect."

During the nine centuries that have elapsed since the first settlement of the island, no armed force has been raised or introduced into the island.

We extract the following interesting particulars from Mr. Frederic Hill's eleventh report on the Prisons of Scotland, presented to Parliament last session:

"Of about 18,000 prisoners received during the year ending 30th June, 1845, rather more than 2,600 were under seventeen years of age; nearly 3,700 were between seventeen and twenty-one years of age; nearly 11,000 from twenty-one to fifty; and about 1,100 above fifty.

As a general rule, the prisoners, especially the young, are found on admission to be inferior, both in mental and physical development, and in the amount of knowledge they have acquired, to people generally; owing, no doubt, to the unfavorable circumstances of their birth and early training, and to frequent exposure to cold and want, often alternating, as the age advances, with the effects of dissipation. Many who are committed and liberated while young, probably die before they reach manhood; but the same general inferiority is observable, to a greater or less extent, in prisoners of all ages. In many cases, indeed, the degree of weak-mindedness and the want of self-control approach the confines and even pass the boundary of sanity; and a lunatic asylum would often be a more appropriate receptacle than a prison.

"The records of the state of the education of the prisoners, on their admission, as shown by their knowledge of reading and writing, agree with what might be expected under such circumstances. Of upward of 15,000 prisoners examined last year, only 1,004, or one in fifteen, were found able to read and write well; and only 262, or one in sixty, knew more than mere reading and writing; while upward of 3,000 could not read at all, and upward of 8,000 could not write at all.

"It will be found, by a comparison of the foregoing summary with that given by Mr. Redgrave, in the criminal returns from England and Wales, that, although the general state of education in Scotland is usually considered to be superior to that of England, the criminal population of Scotland is quite as low in education as the criminal population in England and Wales; showing clearly, that in Scotland as well as in England, it is among the uneducated that crime abounds, potent as may be other causes than the want of education in producing crime."

If we compare the criminal records of the old world, where little comparatively has been done in the cause of

education, where the increase of poverty has increased crimes, and where the people are poor because they are ignorant, with the criminal calendar of the United States, where Education has advanced at a rapid rate, we shall find a still more gratifying account in favor of the education of the people.

In Ireland, during the period of 36 years, from 1805 to 1841, the convictions for crime swelled up from 3,600 per year, to 20,796, showing an increase of 600 per cent. in that time.

In Scotland, during a period of 22 years, from 1820 to 1840, they swelled up from 1,486, in one year, to 3,884; being an increase of 300 per cent., while her population increased only 50 per cent.

In England, during a period of 37 years from 1805 to 1842, they increased from 4,605 in one year, to 31,309; nearly 700 per cent., while the population increased about 60 per cent.

The following facts show on the other hand, that crime has diminished in the United States, notwithstanding the increase of population, and the increase of foreign criminals.

In the States specified, the number of State prisoners averaged yearly, for the years mentioned, as follows:

*Maine*—For 13 years ending 1837, - - - 80
" 2 " " 1844, - - - 54
Decrease, - - - - - 25 per cent.
Population, increase, - - - - 25 " "

*Vermont*—For 25 years ending 1837, - - 100
" 2 " " 1844, - - 69
Decrease, - - - - - 33 per cent.
Population, increase, - - - - 20 " "

*New Hampshire*—For 10 years ending 1837, - 73
" 4 " " 1844, - 88
Increase, - - - - - 20 per cent.
Population, increase, - - - - 20 " "

*Massachusetts*—For 10 years ending 1837, - 298
" 4 " " 1844, - 301
Increase of population, - - - 18 per cent.

*Connecticut*—For 9 years ending 1838, - - 191
" 3 " " 1844, - - 206

Same increase as population.

*New Jersey*—The population has doubled in 40 years.—Criminals: 1833, 163; 1839, 160; 1840, 152; 1841, 151; 1842, 137; 1843, 155.

*Pennsylvania*—Population increased one-third in ten years. Convicts to the Eastern Penitentiary from 1836 to 1842 average 387; for the three years ending 1844, 345.

*Maryland*—For 5 years ending 1838, - - 381
" 4 " " 1844, - - 291

Population increased 12 per cent. in ten years. A recent law allowed some to be sold into slavery.

*Virginia*—Average for 43 years, punished, - 55

For ten years prior to 1823 it was 72; for the last year (1843) 52. Population increased 20 per cent in ten years.

*New York*—For 6 years ending 1837, - - 1455
" 4 " " 1844, - - 1484

Increase of 2 per cent., while the population has increased 25 per cent.

In England, the number of persons arrested and confined for crime was as follows:

| | | | |
|---|---|---|---|
| 1836, - - | 99,127 | 1838, - - | 109,712 |
| 1837, - - | 110,095 | 1842, - - | 139,388 |

Increase, 40 per cent.

Proportion to population, 1:100

Exclusive of the violation of the game laws, there were convicted, in England, in 1842, 87,299—1:160 inhabitants.

In England, those convicted of crimes such as are punished in New York by State Prison, amounted to 31,309—1:450 of the people.

In New York, convictions for the same offences were, in 1842, 1291—1:1808 of the people. In 1830 the convictions were as 1:1811 of the population.

The re-committals were, in 1842, in England, as 1:424 of population. In New York as 1:5300.

This difference in favor of New York is due to her education. Her Common Schools are her glory. She has built up a library in every district, and all of them contain 1,400,000 volumes, carried to the very thresholds of the people's houses. We must make the following quotations from the Common School Report for 1848, of this State:

"It appears that on the 31st day of December last, there were in the State 10,621 school districts, the school houses of which were situated in the town or ward; 8,070 whole districts, and 5,462 parts of joint districts. Returns were received from 8,006 whole districts, and 5,315 parts of districts, showing 54 whole districts and 147 parts of districts, from which no reports were received. The non-reporting districts have decreased since the year 1845, from 124 to 64, and the non-reporting parts of districts from 260 to 147. A result which shows that as the people and the proper officers become familiar with the somewhat complicated machinery of the School System of that State, its operations become more and more perfect. The number of incorporated and private schools reported this year in the State, is 1785. It is estimated that about 75,000 children are annually taught in the private schools. The following statement shows the attendance of children at the public schools for three consecutive years. The whole number of children between the ages of 5 and 16, reported on the 31st of December, 1845, exclusive of the city of New York, was 625,399. The whole number reported on the 31st of December, 1846, exclusive of New York, was 624,848. The whole number reported on the 31st day of December, 1847, exclusive of New York, was 718,123. The whole number of children reported as attending school during some portion of the year 1847, is 775,723."

These facts need no comment to enforce the lesson they teach. As the thunder which, booming in the heavens, is best appreciated by silent meditation, so the startling facts drawn from every-day life on the subject of the education of the people, speak most powerfully when not obtruded upon the reflecting by argument and exhortation.

We now turn to another branch of our theme, and enquire more particularly what education has done for the unfortunate and degraded. On this point, also, we are fortified by the most brilliant facts that can be found in the pathway of human experience.

The Prison Discipline Society, in its report for 1845, says that it has assisted 228 discharged convicts, all of

whom are moral and doing well. This is the effect of education; for the best assistance they received was that of good advice and warm sympathy, which awakened the moral feelings, suppressed the tumult of passion, and made them resolve to be better men. This is Education in her truest office and in her proudest triumph. Would to God that our Education generally appealed more to the heart, even if it should speak less to the intellect!

Another illustration is furnished by Isaac T. Hopper, formerly one of the Inspectors of the Penitentiary of Philadelphia, who stated at the Prison Association, in 1844, that he had aided 50 young culprits, and but two of them had turned out badly. Why did not these young men continue their course of crime? Because they had received more development of their natures, by the education they were entitled to in boyhood, but which was withheld until their hands and their hearts were sullied with crime.

While on this subject we must not overlook the labors of the great Boston Philanthropist, John Augustus. For seven years he has devoted his time almost exclusively to the benefit of unfortunate men and women whose intemperance and other frailties have brought them before our Courts of Justice. In October, 1848, he made out his account with misery, wretchedness and crime. It appears that he had become surety for 799 prisoners, to the amount of $57,670. In the Police Court the number was 502—353 males and 149 females. In the Municipal Court, for five years, the number was 297, In only one case of the whole number was he obliged to pay the forfeiture of the bail, $100. Many of them are known to have entirely abandoned their habits of intoxication.

Here, also, we see the power of Education in saving from vice and crime, and planting substantial bases of happiness. Mr. Augustus was the great moral teacher of these 799 human beings. He did not take them before they had become criminals, when it would not be so difficult to discipline the moral sentiments; but he descended into the very sewers of Humanity and plucked out the wretched, the vicious and the criminal, and by finding access to their God-given natures, elevated their thoughts and feelings, and so reformed them that but one

forfeited the faith he had plighted to his benefactor! But why comment? It seems as if words expended upon facts like these weakened their force. If all the truth that beats in the bosom of God could be made known at once on this subject, it would not be more potent than the simple experience of this Philanthropist.

Mr. Edwards once admonished a prisoner that he should have better thoughts, and the emphatic reply was, "*where shall I get them.*" Yes, where shall the people, and especially the criminals, get good thoughts and feelings? They must be inculcated by those who have them—or, more correctly speaking, their faculties should be so developed that good thoughts and pure feelings will come unbidden—those holy influxes from the Great Centre of truth and goodness.

It is development that the people want—development that will elevate the base above their vileness, and enable them to appreciate their true character as human beings. As a general rule the externals of an individual are a reflex of the internal; disorder in the former surely indicates disorder in the latter. Set in order the soul and surrounding confusion will cease. Force an angel into a state of degradation, and time will transform her into a demon. Bring a vile youth out of the filth, profanity and vice with which multitudes are enveloped, and he will gradually rise to a higher plane and feel himself a being of too much consideration to be dishonored and degraded by immorality. On this point some facts reported by the Commissioners appointed by the English government to look into the condition of the poor, will be instructive. Sir, John McNeil was examined before Lord Devons, Commissioner, and the following answer obtained to the question

"Do you find that there is an improvement in their habits corresponding with the improvement in their condition?"

"Yes, decidedly so, as far as I am able to judge; and they improve in their moral habits. As soon as an Irishman gets a little better in his circumstances, and gets out of the state of misery they are generally in, they commence to get clothes a little better than they have been accustomed to; and when they get tolerably well dressed they become totally different characters, and they are men you can trust and depend upon. There are, when this takes place, few quarrels among them!"

"Is it your opinion" Lord Brougham, asked Sergeant Adams, "that whatever increases the self respect of persons, is wholesome as a moral discipline also?"

"I have not the slightest doubt of it," replied the learned Sergeant.

In these facts we see the secret of human redemption. Place all in such a situation that they will understand themselves, the great fact of life, and the object of existence, and crime will be banished from the land. But as long as children are trained up where every thing fair is laughed at as silly cant, where virtue is prostituted and where theiving is popular and taught as a profession, we must expect society to reap the fruits of such neglect. In one of the English ragged schools, of fifty boys, sixteen were professed thieves, and twenty-seven beggars and hawkers.

Some kind of education the people will have, either good or bad. When society does not establish the good, the evil will prevail. Locke said that, "of all men we meet, nine parts in ten are what they are, good or bad, useful or not, by their education. But we need not prolong.

What is here said is sufficient to impress the infinite importance of educating every child, and the infinite wrong of neglect in this behalf. In the light of these facts, who, let me ask you, are the greatest sinners, those who fail to educate the young, or those who have grown up with their rights violated, and acted out the legitimate consequences of ignorance and mis-development? Let, therefore, the fault be charged upon the responsible agents. Let us look to the right source for virtue—to the discipline of the young, and not to the uneducated mind which, in this wicked world, must necessarily be wicked. Let us no longer despise and laugh at the drunkard in the gutter, for we now know what would have made him temperate, industrious and virtuous—and to this he had a right, but this right was violated. Let us no longer turn away with indifference when we see a criminal thrown upon a dray, lashed to its knotty timbers, and drawn ruthlessly over the pavement to the Mayor's office, the watch-house or the jail; for he would not have disturbed the peace of society had society provided favorable circumstances for his appearance into the world and for his good education in youth. Had his rights been defended

he would have led a dignified, virtuous and happy life. But being so grossly wronged in youth, he grew up a curse to himself and others, and now that he has committed a crime, society seeks to revenge upon him the error she has herself committed!

We conclude by stating some propositions.

1. No one is responsible for the circumstances of his birth.

2. Being brought into the world, every one has rights which grow out of the necessities of his nature.

3. Those necessities have reference to happiness, which depends entirely upon the truthfulness of the mind's development and the extent to which it is instructed in the laws of their mental and physical organizations, and in the knowledge of external nature.

4. Every one, therefore, has a right to a thorough education, and if this right be violated, and he becomes a criminal, he is the great sufferer while the injury to society is merely incidental.

5. The criminal being such from the violation of his rights, is not the really guilty one, but only the instrument which society has sharpened to cut its own throat.

6. The criminal, therefore, should rather move us to tears of pity than to feelings of contempt, hate and revenge.

7. Society should provide for the thorough education of every child without delay.

8. Society cannot consistently hold a subject accountable for crime until she has discharged her duty to him.

9. The great business of government is to educate the people—for government has to do with the mind as its first object.

## Art. XXII.—MISSION OF DEMOCRACY.

*America compared with England. The respective local effects of the American and English systems of Government and Legislation; and the Mission of Democracy. Liberty, Equality, Fraternity. London*, 1848. *pp.* 289.

This is a radical book written and published in London by an Englishman who has spent several years in Cincinnati. It is designed to meet the growing spirit of reform in the English mind, which has been so much accelerated by the revolutionary events of the past year. Its object seems to be two-fold,—to show the people of the "fast-anchored isle" what better laws have done for their brethren in America, and inspire a hope of improving their own political institutions; and to set forth the author's peculiar views of social progress—the comparison between England and America being made the pretext for getting his own reformatory notions before the public.

It is calculated better than any other book we know of, to give Englishmen a true idea of their own institutions, by contrasting them with those of the United States, within the compass of a few pages. The author proves himself familiar with the institutions of both countries, and indeed his education—that of a lawyer—has given him every advantage in his researches.

The book has not been published in America, and we merely call the attention of publishers to it, as one which will be profitable to them and of great advantage to its readers, both for the information it contains and the thought it will excite on all the great questions of the age—those relating to the universal diffusion of knowledge, plenty and happiness.

The first three chapters are devoted to an exposition of the Constitution of the United States and of the several States.

Chapter iv. treats of the character of American legislation and government. The author is generally truthful—indeed always so, when speaking of the intention of our institutions;—but the practice under them, all well know, is frequently inconsistent with their spirit. In this chapter our author remarks on the subject of Education:—

"The children of the poorer classes receive an excellent education unmixed with religion, and without expense to their parents. The public common sbhools are so conducted that the master tradesman, farmers and others, who could well afford to pay for the education of their children, prefer sending them to these public schools, although they might there be on a footing of perfect equality with the children of the poorest people in the district."

To this we shall interpose no objection, for it is generally so. But in our larger towns and cities a different practice prevails. There are classes of people who scorn the idea of sending their children to the common schools, because they are attended by the poor. The last Common School Report of Cincinnati tells something on this point. The Central School is a high school into which pupils graduate from the Common Schools, for the purpose of a more complete education. It is a school unsurpassed by any of its grade in the United States; and yet, because it is a free school and assigned for the benefit of the poorest as well as the richest, it is wholly unpatronised by the aristocracy, and by those who wish to rank among the "Upper Ten." Two lawyers, three physicians, one clergyman and one editor, who could not afford to be "select" in the tuition of their children, appear on the list of parents of the students of the Central School! Indeed we may say that nearly all the families that can afford to educate their children separately, do so because of the very freedom and equality of the Common Schools. In our Democratic Republic, there is probably as much aristocracy in the feelings and practice of the people as among the corresponding classes in England—at least there is as much as their wealth will permit them to cherish.

Chapter vi. is devoted to the comparative expenses of Justice in the two countries and to the comparative quality of the justice administered—proving that it is not only vastly cheaper here, but also of far superior quality. Concerning the late Irish trials our author says:—

"The administration of justice in Ireland is of a remarkable character. The judges and justices of the peace are nearly all Protestants, and in many trials it has been customary to exclude Catholics and all persons entertaining obnoxious political opinions. On the trial of Mr. Meagher for sedition, the Catholics and Repealers generally were excluded from the jury; but one got in by mistake, and he alone was for an acquittal. The power of the Government, both in England and Ireland, over the juries is very great, not only as regards the selection of the list, but also in the right of challenging.

"On the trial of Mr. Mitchell for 'imagining' the establishment of a republic, &c., no Catholic was allowed to sit on the jury. The jurors' book from which the jury was taken contained 4,570 names, of which 2,965 were Catholics, and 1,635 Protestants. The Sheriff selected a panel of 150, in which there were but 28 Catholics. The Attorney-General challenged 39, including every Roman Catholic who answered to his name, to the number of 18. Mr. Keogh asserted, in the House of Commons, on the 21st July, 1848, that ten out of these 18 Catholics did not belong to any political society. So that, in a Catholic country, no Catholic is allowed to be on the jury!"

In chapter viii. the author argues that the superiority of Englishmen to Irishmen, as a people, is due to the better condition of the poor of England for centuries, in consequence of the munificence of the Government in granting poor relief. This is doubtless true.

In chapter xviii. we have an account of the liberty of speech and of social action in the boasted land of Magna Charta and Clarendon Constitutions:—

"In the year 1840 it was publicly stated in the House of Commons by Mr. Fox Maule, then one of the Secretaries of State for the Home Department, that 'the government of 1817 came down to the House for extraordinary powers. They came down to Parliament for the six acts.' The 19th chapter of 57 Geo. III., under the pretence of being an act for the more effectual prevention of seditious meetings, was in effect an act passed *for the purpose of suppressing public discussion altogether.*' And he also observed that 'he found it recorded that the Government of 1817, not content to rely on the ordinary or even the extraordinary powers the law had placed in their hands, in order to the conviction of those guilty of sedition, had employed spies to go amongst those misguided persons, to mix with

them, to excite them, and then to betray them into the hands of the Government. The people of England had been visited by one of the greatest plagues with which a people could be inflicted. The Government, which ought to be their protection, had sent persons among them to stir up acts of violence. Upon the examination of certain persons at Bow-street, August 18, 1848, the principal witness was a spy, who had urged the accused to acts of violence.'

"The act of 39 Geo. III., chapter 79, section 1, suppresses certain named societies, and enacts that every society, the members whereof shall take or assent to any test or declaration *not required* by law, and every society of which the names of all the members, and of all committees, and of all officers, shall not be entered in a book to be kept open for the inspection of all the members; and *every society composed of different divisions* or *different parts*, acting separately from each other, shall be deemed unlawful combinations and confederacies; and it is punishable to be a member of, or to support such society. *The object of this act was to prevent all political associations;* and it is so worded as o include all associations, even those of a religious and scientific character."

Section 14th of this act makes two Justices the judges of what shall constitute sedition. By the 15th section there can be no lecture or reading room kept open without license, and persons offending may be summarily committed by Justices without a trial by jury. The act 57 Geo. III. prohibits societies having any committee, representative, or missionary, to meet or communicate with any committee, representative, or missionary of any other society. The act 60 Geo. III., chapter 6, prohibits meetings of more than fifty persons except in the parish where the people meeting usually reside, and unless six days' notice be given to the Justice, who can change the place of meeting at discretion. Section 1st of this act prohibits all assemblies of persons for the purpose of training or drilling themselves, or of being trained or drilled to the use of arms, or for the purpose of practising military exercises, movements or evolutions, without the authority of Justices, &c.

Chapter xix. gives further information concerning sedition with references to decisions and charges of the courts.

Chapter xx. further describes the abridgment of liberty in England.

In chapter xxi. we find some account of political parties in Great Britain. They are the Whigs, the Conservatives or

Tories, the Radicals, the Chartists, and the advocates of the repeal of the Union with Ireland. The Whigs have a majority of the members of the House of Commons, but are greatly in the minority of the middle classes. This happens in consequence of the regulations concerning the exercise of the right of suffrage. Ninety thousand men, most of whom are dependents on the landed aristocracy, elect a majority of the representatives.

The larger portion of the middle class is Radical, as is judged from the great patronage extended by them to the weekly radical papers of London, while the Whig papers enjoy but a limited circulation among them. Formerly the difference between the Whigs and Tories was that the former would concede a little reform, while the latter were afraid to make the least concession. The Whigs were more democratic in spirit. They supported religious toleration, parliamentary reform, the abolition of slavery, law reform, and so forth, while the Tories opposed them all. But now there is very little difference between them; both parties desire to perpetuate the institutions as they are. The Whigs were too much dependent upon the aristocracy, moved too slowly for the Radicals, and have had their day.

A majority of the nobility, landed aristocracy aud clergy are Tories; but a considerable minority of Whigs and followers of Sir Robert Peel are among these classes. The Peel party are Whigs, and our author thinks it is not impossible that they will, at some future day, advocate some comprehensive parliamentary reform, under the belief that a great change is inevitable and they might as well assist in bringing it about.

The Radicals are for parliamentary reform but do not generally support universal suffrage; they are for household suffrage, vote by ballot, equal electoral districts and triennial elections; the abolition or thorough reform of the church establishment, and a reform of the taxing system; they advocate national education, economy and retrenchment. They say in public that they are in favor of the Monarchy and the House of Lords. They embrace a majority of the middle classes, and yet cannot muster more than fifty or sixty votes in the House of Commons.

The Chartists comprise a majority of the intelligent

working-men of England. They are in favor of parliamentary reform on a large scale, universal suffrage, equal electoral districts, vote by ballot, annual elections, no property qualification for members, payment of members;—these are the six points of the Chartists. There are not half a dozen members in the House of Commons favorable to these views, and not one in the House of Lords. The Chartists wish to impose the burden of taxation on the great fortunes of the realm, for a gratuitous education and a more liberal relief of the poor. "Many of them are opposed to monarchy and aristocracy, though they do not openly declare their sentiments. They do not favor Communism nor understand it; nor do they desire to break the national faith, or interfere with the right of private property, although some of the voters, in ignorance of the equalizing effect of democratic laws and government, argue that it is necessary for the State to take possession of all the land of the country and lease it out in small parcels, for small terms, to those who will pay the highest rent to the government. The proposition is, for the government to take the land from time to time, upon the decease of the present owners, paying the descendants its value by instalments, without interest. These teachers make very few converts. Some of the Chartist orators have counselled an appeal to physical force, if moral force should prove unavailing; but the vast majority are aware that without the aid of the middle classes it is impossible to overturn the government, either by force or otherwise."

The remainder of this chapter, as well as a large part of the book, is devoted to the necessity of establishing democratic institutions in Great Britain.

Chapter xxii. is an ingenious compilation of the testimony of Englishmen in America, concerning the effects of democratic institutions, showing the great superiority of society in the Model Republic. This is well calculated to operate on the English mind and strengthen the dislike of Monarchy and Aristocracy.

With chapter xxiv. the author commences a statement of his views concerning the Mission of Democracy—the benefits which democratic institutions are to confer upon mankind. In the first place he exposes the evils of the

present order of society by copious quotations from such writers as Louis Blanc, who have probed society to the core, and laid bare the enormities of the present social state. We must make a quotation to show the temper of the French Reform. Speaking of the boasted freedom which the mass enjoy, he says:—

"Free, truly, to cultivate his intellect as the poor child whom hunger drives from school, to sell himself, soul and body, at the nearest mill, in order to increase by a few pence the paternal wages!

"Free, truly, to dispute the terms of his employer, is the workman, who perishes if the dispute be prolonged!

"The workman, out of work, who has no shelter, is at liberty—not to sleep upon the pavement!

"The poor girl is permitted to remain chaste and poor, when, without work, she has to choose between prostitution and hunger!

"But the poor man has the free *right* to ameliorate his position. And pray what of that, if he has not the power? What avails the patient, who remains sick, the right to be cured?

Again, speaking of competition, the same writer says:—

"*Competition is for the people a system of extermination.*—Is the poor man a member or an enemy of society? *Answer:* He finds around him nothing but appropriated ground.

"Can he till the land on his own account? No; because the right of the first occupier has become right of property.

"Can he pluck the fruits which the will of God has ripened in the path of man? No; because like the soil, the fruits have been appropriated.

"Can he resort to hunting or fishing? No; because they constitute rights which the government supports.

"Can he take the water of an inclosed well? No; because the proprietor of the inclosure is, by virtue of the law of inheritance, proprietor of the spring.

"Can he, dying with hunger and thirst, stretch out his hand to the pity of his fellow men? No; because there are laws against mendicancy.

"Can he, exhausted with fatigue, and without shelter, fall asleep on the pavement of the street? No; because there are laws against vagrancy.

"Can he, escaping from his homicide country, where all is denied him, seek far from the land of his birth the means of existence? No; because he is not permitted to change his country, save on conditions impossible for him to perform.

"What, then, does this unfortunate? He says to you, 'I have arms, I have intelligence, I have strength, I have youth; take all that, and in exchange give me a little bread.' Thus do and say the workmen of our days. But, even to this you can reply to the poor man, "'I have no work to give you.'"

The writer then summons these workmen before an employer, and the following dialogue takes place :—

"How much for your labor? Three francs; I have a wife and children.

"Good; and you? Two francs and a half. I have no children, but I have a wife.

"Indeed; and you? Two francs will content me—I am single.

"You, then, are preferred.

"It is done; the bargain is struck. But what becomes of the two rejected workmen? They will die quietly of hunger, it is to be hoped. But suppose they turn robbers? Fear nothing; we have gend'armes. Or murderers? We have the executioner. As for the luckiest of them, his triumph is but temporary. Should a fourth workman arrive, sufficiently robust to fast one day out of two, the scale of reduction would descend to the lowest point; and lo! another parricide; perchance another convict for the galleys."

These remarks were made after visiting 1500 workmen and 30 shops in Paris. The following is also forcible :—

"There is a tyranny I know, far more difficult to elude or shake than that of a Nero or a Tiberius; it is the tyranny of circumstances. It is born of a corrupted social order; it is composed of ignorance, poverty, neglect, bad example, mental sufferings—and bodily pain that finds no softener; it has for victim whoso is in want of food, of clothes, of lodging, in a land of abundant granaries, warehouses encumbered with stuffs, and empty palaces."

The author next exposes M. Thiers' fallacy that *society rests on property, liberty and competition*, and proceeds, in chapter xxv., to notice the co-operative communities in America, such as the Shakers, the Fourierites, the Rappists, &c., showing that the Community principle had succeeded.

Passing over several chapters enforcing the co-operative principle, we will conclude by noticing the author's peculiar notions concerning the Mission of Democracy. He says a proper social system is to be obtained only by several successive steps.

1. There must be democratic legislation, which will extinguish the aristocracy, diffuse intelligence and distribute property. Society will then guarantee the support of all its members in a direct manner. Criminals will be treated with humanity and emigrants assisted by the state. Education will be provided gratuitously; as also public libraries, lyceums, &c. People will be disposed to fraternize with each other.

2. In the second stage the State will assume the ownership of railroads and other great public works, and undertake the manufacture of those articles that are not made in large establishments. It will regulate the prices of those articles and the rate of wages. The State will provide against famine, by laying up stores in time of plenty. The subject of restricting the increase of population with reasonable limits will be investigated and thoroughly understood.

3. The last grand charge, for which all the preceding will have been mere preparations, is the general establishment of industrial associations based upon the co-operative principle, instead of that of competition. Society will be formed of a conjeries of such associations, with a central government for the control of all of them, and the conduct of foreign relations. All the male population will bear arms and be skilled in their use, so as to be able to resist invasion from surrounding kingdoms and States remaining in a state of semi-cultivation. In further particularising the condition of this social consummation the author says:

"As to the marital relation, no absolute right in one human being to the person of another will be recognized, but the husband and wife will be authorized to separate whenever incompatibility of temper, or any other circumstance, may, in the estimation of the community, and according to its laws, render a dissolution of the compact desirable."

To the objection that under such regulations, marriages would be too frequently dissolved, he says, that this would not be the case for proper motives would govern, and the usage will be to abide by the contract of marriage.

We would suggest, in conclusion, that when this sublime society shall bless mankind there will be no need of military parade, and all the murderous parapharnalia of battle will be loathed by the human family. For neither war nor rumors of war will be heard in those days, and the people will look back to the present with amazement, astonished that man should meet his fellow in battle. The author ought to have divested himself of the present when passing spiritually through coming centuries to that Jubilee of Peace and Happiness on earth.

The same objection might be made to his views of the

marriage relation in that happy period; for then the male and female will not err in finding their own counterparts, and therefore, there will never occur any disagreement between husband and wife.

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## Art. XXIII.—TO A BELLE.

Thou of the Queenly brow,
Amid a train of parasites there standing,
One talking to thee—one a boquet handing,
Another gazing on thy form commanding;
Come, wander with me now,
From thy charmed circle and accustomed smile,
And let me rouse thy WOMAN SOUL awhile!

Look 'round upon the world!
Is't not a glorious time to see its brightness—
The stars are out, and an auroral whiteness
Glistens along the north; the air is lightness,
The tree leaves are all furled,
And thou and I can listen now apart
To the great beatings of the Eternal heart!

What—doth its glory awe thee!
Has it so soon in silence steeped thy laughter?
Then shall my missive angel follow after,
And may the winds of holiest feeling waft her!
Lady, since first I saw thee,
My heart hath yearned to whisper in thine ear
A voice of truth—how unaccustomed there!

Dost thou know what thou art?
A jewel all immortal set in glory—
Radiant as Dian throned on mountains hoary—
Charming like Circe of the olden story—
To thee was given a heart—
A mind of brightness; wings to soar on high
And bless mankind with blessings of the sky!

What hast thou done with these?
Learned how to dress forsooth with choice election—
To smatter French that scarce will bear inspection—
To waltz and move with skill beyond correction;
And thou hast power to please
With graceful nods, and artificial smiles,
Smooth speeches, and a thousand petty wiles.

These bring thee thy reward!
A train of shallow, sensuous fools for lovers,
Whom thou dost scorn as each his suit discovers,
But still another band around thee hovers,
With pleading long and hard;
And thou art toasted as Queen among the graces,
And even talked of at the watering places!

And so thou liv'st thy life,
Without an object save what each day bringeth—
No fount of pleasure in thy bosom springeth—
No bird of beauty in thine ear aye singeth—
Nor is thy bosom rife
With happy thoughts that come from deeds of worth,
That fall like dew drops on the thirsty earth!

Lady, forget these things,
And turn to nobler themes for thine aspiring—
Let a true woman's soul be thy desiring—
A soul as noble as the spirits lyring
Their songs by heaven's clear springs;
Thyself its temple, in which all may see,
Through actions pure, th' in dwelling Deity!

Then there shall be, the form
Of a dear angel lent to human weakness,
To bless with gentlest smiles the couch of sickness,
To tread the path of right in graceful meekness,
The rainbow of the storm!
And thou shalt learn in perfect womanhood
The dignity and power of doing good!

Then, too, shalt thou be loved—
Not by mere shallow worldings; but the noble
Who shine in genius' gallaxy, and double
The smiles of Heaven to this world of trouble,
Will hold thee worthy proved;
And the high hearted will thy presence seek,
And in thine ear a grateful passion speak!

And thou wilt be the wife
Of one whom thou can'st prize o'er any other,
And thou shalt hold each brave companion brother,
And when his noble sons shall call thee mother,
Thou, in thy truer life,
Shalt by thy generous joys and transports tell
How vain a thing it was to be a Belle!

## Art. XXIV.—I WAS IN PRISON.

### CHAPTER I.

The Spirit needs no locality for it "wings the Infinite." But while it is manifested only by the aid of physical organs, the body must have a place, and there we must look for the unemancipated soul.

For the locus of our meditations, let us turn to one of our western streams that flows by the Capital of a youthful Commonwealth. Silently the clear waters glide along under the umbrage of the elm, the sycamore and the willow, that skirt the streams and reach over many a luxuriant branch to bound at the throbbing of the tranquil tide. The Scioto winds its way toward the genial South, now breasted on one side by a bank not high nor of steep ascent, and bounded on the other by a wide plain of Eden fertility, and now, as if repelled by the bank, moving off diagonally across the plain to seek companionship with the opposite hills leaving the fruitful garden of the valley on the other side.

At the section of the stream where we are now located, was a scene of singular beauty combining both the natural and the artificial. On the west the stately forest, held from the axe and the plow by the monopolising landlord, stretches far away in sombre and solemn grandeur, broken only in the perspective by here and there a mansion almost sheltered by the o'erbranching oaks. On the east to the southward lay the Capital City, rising elegantly over a gradual undulation of surface. While toward the north is seen the Prison House of the State towering grimly amid the gray turretted battlements that seem to have been constructed to guard some mighty and infernal power.

It was on an evening of May that Elmira Lawrence, who dwelt on the bank opposite the Capital, walked out to enjoy the coolness, the quietude and the spiritual geniality of the evening. A beautiful day was closing, the sun was taking leave of the domes and the spires on the other side of the river, the whippoorwill was already heard

from the forest's depth, and around, above and below, myriads of insects united in the solemn chorus, as if to commemorate the dying day. Such an evening suited, well the tone of Elmira's feelings and she failed not to enjoy it in a solitary walk along the brow of the bank with the valley, the river, the city and the varied landscape stretching out before her. Having passed along reflecting upon what was before her, and the associations connected with them until her soul was full of strong sentiments and gushing feelings, she paused, leaned against a Mulberry, and fixed her eyes upon a single object on the opposite bank. But a few moments elapsed before the intensity of feeling opened the fountains of her soul, and she stood a monument of truth, and beauty bathed in tears. She was in a state of complete abstractedness, and she made no movement but that of wiping away the warm and sacred drops as they coursed along her cheeks.

While Elmira thus stood as it were in the sanctuary of the spirit, a young man of graceful mein, pleasant appearance and not unknown to her, passed that way, and beholding her situation, halted and hesitated whether it were allowable to disturb her for the purpose of lessening her grief and administering consolation. He was touched by the singular beauty that seemed to adorn her at this above all other times, and deeply moved by her tearful sensibility. Slowly did he approach—now softly stepping and now halting as if he were walking upon holy and forbidden ground. He kept his gaze fastened upon the young woman and soon found himself reciprocating her tears by brushing them occasionally from his own countenance. After doubting and hesitating for many minutes, he ventured to advance with sufficient noise to warn her of his approach while at a respectful distance. As she started at the noise and rustling of his footfall he said with a winning voice and manner:—

"Pardon my intrusion—I would weep with thee. Why art thou sad amid all the loveliness around? What grief lies heavily at the heart that thou shouldst weep while every things seems so well calculated to make the spirit bound with delight and awake to joy our every sense?"

The maiden full of confidence from the frankness of man

ner and the echo her spirit voices thus seemed to meet, manifested no discomfort; and the character of her meditations was such as to need a reciprocating friend to whom they could be revealed for counsel and for strength. She had never before met one whose whole appearance indicated so fully an appreciation of her thoughts, feelings and emotions. She rarely found a sympathizing friend, and to be thus approached she felt the generosity of friendship and the congeniality of home. Unabashed and unembarrassed, therfore, she responded to the question so earnestly put; she pointed across the valley and in a tone of wonder accompanied by an expression of astonishment, replied:

"Dost thou see that huge structure begirt with those gray walls of massy rock?"

"Ah, and why art thou so sad in the prospect?"

"It is the prospect that makes me sad—it is the Prison where human beings are guarded by unpitying keepers armed with guns and bludgeons, as if they were ferocious beasts from the wilderness."

"Hast thou a near relative under the care of those keepers?"

"Ah, verily—there are five hundred of my near relations within those walls, robbed of every principle of manhood, whose only companions and bosom friends are those in whose presence they dare not breathe a generous feeling, and whose instruments of death call up sentiments that choke down every virtuous inclination!"

"Is this the cause of your tears that have flowed so freely?"

"Is it not enough, that such things should be in the face of the deep blue sky, in the presence of the sun, moon and stars, on the bosom of such a fruitful earth, surrounded by such charming scenery, and within hearing of the song of the free birds, the music of sportive insects, and the general joy of creation? Oh, sir, five hundred of those beings whose bodies are chained and whose spirits are crushed, should be enabled to enjoy all the fullness of the soul for which nature has made such ample provision?"

"But they are criminals—individuals so wicked as to be dangerous to the peace of society, the security of property and the safety of life. They must be punished, or *none*

would be able to enjoy the bounties of nature. It is, therefore, to preserve every beautiful prospect on earth from being converted into a black desert, that the Prison house is erected, and the violent confined with the strong arm of the law."

"If my principles were those of the world," replied she, "I would pity these unfortunates as little. But I know by an unerring knowledge that with every stone that composes those grim walls, is associated a falsehood—a lie destructive alike of the virtue of the free, as of the reformation of the convict. I know that other means of dealing with the erring are the true means, and that injustice of the deepest die is done to those upon whom the law thus lays a ruthless hand."

These announcements created some surprise in the young man, who, nevertheless knew what belonged to true gallantry, and did not press an argument further, both for the purpose of first satisfying himself concerning the position his fair companion of the evening occupied, and to gratify a feeling of reverence that her words and questions had excited, He, therefore, cut short the conversation on this point by silently acquiescing in her remarks, and saying that the subject was new to him and must be revolved in his own mind.

"It is growing late, she added, and I must retrace my steps."

"Shall I obtrude myself if I accompany you?"

"Not at all—I am not a strict observer of the arbitrary rules of a false society. While sustained by the consciousness of the rectitude of my intentions and conduct, I little regard what others may think or say in reference to me."

They filled up the time required to walk back to her residence by a desultory conversation. When they arrived at the gate, he desired to know if he could serve her on any occasion; to which she replied, that she would be pleased to attend Church at the Penitentiary on the next Sunday, and if he should be pleased to call for her, she would endeavor to appreciate his kindness. Here they separated —he to digest the thoughts he had heard, and the extraordinary circumstances of the case, and she to meditate in silence and solitude the intuitions of her holy nature—in solitude I say, because those with whom she resided were

not of her spirit—could not understand her philosophy, and regarded her as somewhat disordered in mind, and one of those day-dreamers whose idle vaporings were worthy of no attention. For the same reason she had little or no society in that section, as well as for the reason that she despised the affectation and hollow-heartedness that prevailed, and because the great interests of humanity, so dear to her, were overlooked by those who have the power to save. An incongenial mind is of another species and a stranger.

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### CHAPTER M.

Junius Langdon, the young man introduced in the foregoing chapter, was of the best society, being connected with an important State functionary, and having means enough to pass him in the genteelest circle. But he was not, as the reader has already discovered, destitute of good mental qualities. His susceptibility of feeling has been tested, and his good intellectual inclinations will be conceded when the object of his visit across the valley is made known. He was a youthful devotee of science, and had come over to study the rock formation as developed in the quarry, and to gather the fosssil remains of animals, which lived in a former period of the earth's history, but long since became extinct, leaving their places in the future for more perfect beings occupying higher places in the climax of progress. Junius had gathered many fossils of which there are an abundance at this locality; among which the most interesting are varieties of the Strophomenœ, Orthis, Delthyceris, Orthoceras, Pleurotomaria, &c.

The formation is the Cliff Limestone of the Western Geologists. He had already made quite a collection of mineral and fossil specimens of this section of the country, and was in correspondence with several industrious collectors of other sections, with whom he exchanged duplicates of such as he had multiplied, for those which he could not otherwise readily procure. His taste for science had done much to ennoble his philosophy and exalt his thoughts. He was, therefore, above much of the light and frivolous that prevailed, and it is not a wonder that he so well ap-

preciated the character of Elmira on this their second meeting.

At the Chapel of the Penitentiary Church, service was held every Sunday morning by the convicts, who seemed to pay the strictest attention, and understood the impassioned if they did not the doctrinal portions of the sermon. They joined in the services of prayer and singing, making as good prayers and much better music than are usually had at Methodist Churches.

On Sunday, Junius accompanied Elmira to the Prison Chapel as per appointment. They were seated with a few other visitors in one corner, having a full view of the convicts as they entered in single file and took their seats under the direction of their keepers. It is to the Philanthropist an affecting sight to see human beings thus situated. All dressed in the dishonorable garb of the convict, and watched by men no better, perhaps, than they, carrying clubs and arms to guard those who are stripped, they feel as though all manhood were beaten out of their souls, and hang their heads in shame. Knowing that the world regards them with contempt and laughs at their misfortunes, they feel crushed in spirit, and their days are one continual brooding in despair and doubt, hesitating whether it were better to endure the world's scorn, to seek vengeance by rushing into deeper crimes, or to make their own quietus " with a bare bodkin." I say, it is an affecting sight to see so many individuals banished from society, and all the sympathies of mankind, with hopes blighted and every prospect of life darkened by the mastery in themselves and the people who misuse them. It is sad to see an immortal spirit thus choked to the very death, where a little kindness on the part of those who ought to be their brethren would have saved, yea, would now save them from the horror that yawns before them, and the misery that enclouds their minds.

It was not surprising, therefore, that Elmira was deeply affected by the spectacle, even beyond her power of control. She suppressed far as possible, all manifestation of feeling ; but when the hymn was given out by the Chaplin, and the singing commenced by the convicts, who sung as one choir under the lead of one of their number who was an excellent singer. Such was the adaptation of the words to

their situation, that the strong feeling excited in the unfortunates was irresistable. The hymn was as follows:

Surrounded by a host of foes,
Stormed by a host of foes within;
Nor swift to flee, nor strong to oppose,
Single against earth, hell and sin;
Single, yet undismayed, I am;
I dare believe in Jesus' name.

What though a thousand hosts engage,
A thousand worlds my soul to shake;
I have a shield shall quell their rage,
And drive the alien armies back;
Portrayed it bears a bleeding lamb,
I dare believe in Jesus' name.

While singing this piece more than one of those victims were moved to tears, and Elmira more than all poured out the evidence of a sympathizing heart. She turned aside to give vent to her compassion, and was not able to collect herself until the Chaplin had advanced far into his discourse. One of the convicts who chanced to see her grief, and knowing the cause, bowed his head in a tearful consciousness, that one human being lived to understand the position of himself and fellow convicts, and to wish in her heart she might do them good instead of evil. This unfortunate was recognized by Elmira who saw in his clear, frank countenance the evidence of many noble sentiments and generous impulses. He was about twenty five years of age, of symmetrical form, elevated brow, black eyes, and a beautiful countenance, expressive of great benevolence and kindness. How such an individual came to that horrible place, where every happy impulse and virtuous feeling is choked by all that can stimulate resentment, offend pride and mortify self esteem, was a wonder to her. She intuitively saw him worthy the first place in society, and it seemed a human sacrifice, a victimization of an immortal spirit to chain such an one by day, close the iron bar upon by night, and all the time to think of him with scorn. Indeed, all the convicts she knew were worthy of different treatment, and if some exhibited more of the animal and less of the spiritual than are safe to society, it only proved them deficient in that

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congenital inheritance and youthful culture which are most consonant with virtuous feeling, truthful thought, and noble action. For lack of these they are not blameable, and therefore, for their evil works they are not entirely responsible. Let every person have a good mental and physical constitution from their parents and all their educational rights discharged, before an attempt be made to estimate his blameworthiness. Through this philosophy she judged of the victims before her and consequently knew how to pity them.

The exercises of the morning closed and the prisoners were marched out as they came in, and formed into platoons of twenty or thirty individuals in as close order as they could stand, the one on the right leaning back against the rest and all pressing forward upon him, so that no one can break the rank without throwing the others down or so disconcerting them as to render a capture easy if a revolt be meditated. In this order all stepped together taking short steps, and thus they marched to their dinner of soup, corn bread and beef. Elmira saw this spectacle, the climax of humility and human persecution, and with a heavy heart said—

"It is enough—let us go. It is easy to kill the soul but who can make alive. Modes of punishment and engines of torture have been studied, but who ponders the means of regeneration and reformation?"

"Much that we have seen may seem cruel and unnecessary," replied Junius, "but judging of it we must consider the welfare of the mass of society. Our judgments may tell us to punish certain offences, to deter the base from violating the rights of life, liberty and property, while our more kindly feelings would incline us to forgive the offender. The judge must turn his face away from his sympathies, else the law will frequently be violated with impunity, and consequently lose its power."

"That law is a falsehood," said Elmira, "which demands a sacrifice of the holiest portion of our being. It is false that, "stern justice," is in conflict with the deepest compassion. There is justice for the convict as well as for society, and our sympathy if permitted to flow will meet it out to him also. Who is it that more strongly impresses the heart, the man of a stern intellectual aspect,

that demonstrates an act to be vicious by cold calculation of the injury, or he who takes his erring fellow by the hand, encourages him by gentle words and wins his esteem by kindness? Many cannot reason but all can feel. The avenue to the intellect may not be readily opened, but to the heart of the basest, there is more than one way of access, so that at one door or another an easy entrance can be had."

They conversed no more upon this subject at this time, but hastened on to the home of Miss Lawrence. The scene she had witnessed made a deep impression upon her mind, and the subject was constantly before her. How can this reform be carried out? she asked herself, and how can the views of the people in relation to this matter be changed? How can society be induced to treat man *as* a man, and thus appeal to his higher instead of his lower nature? She concluded that it was of no use to preach without practice, and that one example is worth a cord of sermons. While pondering this theme she sat down to write to a friend, but the first words she inscribed were "*A human spirit can be redeemed.*"

Quick as a flash she dropped her pen, started to her feet, and in an attitude of firmness, and with a tone of unchangeable resolve exclaimed! A HUMAN SPIRIT SHALL BE REDEEMED.

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### CHAPTER III.

On the following Sunday, also, Elmira and Mr. Langdon visited the Chapel of the Penitentiary. On this occasion she confirmed her previous impressions and learned the name of him whose appearance most forcibly struck her attention on the previous visit. She did not enquire his offence, neither did she care, well knowing that "to err is human," and that many crimes of the most injurious character and, therefore, of the deepest die, had no punishment declared. The name of the convict was Jurdon Lancey.

She had resolved to do what woman rarely deems it her duty to undertake unless in the case of a son, a husband

or a brother. She had determined to obtain a pardon for Jurdon.

On the next morning she presented before the Governor and obtaining a private audience, herself briefly made known her business.

"I have intruded upon your attention, sir, to ask at your hand, a pardon for a convict."

"A pardon for a convict!" exclaimed the Governor, "what can this mean? For whom do you ask a pardon?"

"Jurdon Lancey."

"Have you a petition signed by a large and respectable portion of those who have known him, and are willing to recommend him to Executive clemency, as well as to be surety for his future good conduct?"

"I have not. I do not know where his acquaintances live, neither do I know whether they would consent to his liberation. This I do know, said she, with a tone of conscious truth, he is infinitely above the chains that bind him, and I will guarantee his future good conduct."

"But how dare I liberate a convict unless I have the usual basis of the grant—a petition from the people?"

"Thou hast the power, trouble not in the exercise of that power. The people have given you the means of doing good in this case. Why ask of them permission to do the good?"

"How shall I know that it will be a benefit to liberate this man?"

"Trust that to me," replied she, in a manner that admitted of no more question on this point.

"But I am already blamed for using the pardoning power so frequently. The people say it costs them much time and expense to send the rascals here, and then to have them pardoned through the influence of some woman's tears, is too intolerable."

"Art thou a man? Let not the opinions or speech of others dissuade you from the discharge of a duty. Are you a Governor? Show the world that you can govern. As for woman's tears, I bring them not. I only ask you to look upon me and see if I can be trusted; if so, act accordingly—grant my request."

"Thou art not suppliant as those who crave Executive favor are won't to be."

"I know no suppliance, and on that fact you can rely."

"Have you known Mr. Lancey heretofore?"

"I never heard of him until long after his arrival at the Prison."

"If thou can'st endure a joke, I will suggest that you are perhaps impressed in a tender manner, in behalf of this convict—love is frequently known to work wonders."

"Dost thou mean to trifle with me in this matter? Thou should'st have known me better, ere this, than to think I can be put off with a joke. I came on serious business, and it must receive sober consideration. I have been informed from a power above us all, that A HUMAN SPIRIT CAN BE REDEEMED, and I have resolved that A HUMAN SPIRIT SHALL BE REDEEMED."

The Governor quailed beneath the withering glance of Elmira, as she uttered these words. She summoned a mental power; superior to rank, office, learning and ordinary endowments, and the Governor was compelled to change his tone.

"I beg ten thousand pardons," said he, "for the liberty I took. I had appreciated the importance of your request."

"I only wish, sir, that my prayer might be granted as readily as I grant yours."

"I must consider this case. Give me three days and I will bring you my determination if you will inform me of your residence."

"I reside in the mansion across the valley, and my name is Miss Lawrence."

With this she took her leave, to wait the determination of the Governor. In the mean time he called upon the Warden of the Penitentiary and learned all the particulars of the case of Lancey. They were of the most aggravated character, and he feared the cry that might be raised against him, for prostituting the pardoning power, if he should exercise it in this case. But then he remembered the rebuke of Miss Lawrence, that if he was a man to disregard the power of others. He felt as if it were not right to grant a pardon in this case, and yet he felt that from the determined manner of Elmira a pardon would be procured. He did not prematurely decide the case, but called upon her at the end of the specified time. On entering and observing the usual civilities he said:—

"That is a hard case for which you plead."

"The harder the better," replied she, "the more powerful the example"

"But Mr. Lancey is now in the Penitentiary for the second time. He was first sentenced for robbing the mail, on the trial of which it appeared that he was the leader of a band of ruffians, who were more under his influence than their own; and he is now confined for the second crime known to our law, that of murder in the second degree. He has been pardoned once, but abused the Executive clemency, and has but just entered upon the term of his second sentence, being almost equivalent to imprisonment for life."

"Nothing that I can hear will change my views in relation to this matter, for I am assured by interior light, and must remain constant to my purpose. If he has only commenced his second term, so much the better—his spirit is not so crushed as it would be if his term had nearly expired. There is more hope of him now than there will be if he remain much longer."

"I shall be compelled, I see, to grant your request. Tomorrow I will send you the papers."

"I thank you Governor, for your good kindness in this, and permit me to assure you that you shall never regret the act. Moreover, let me say that your name will be pronounced with honor by multitudes who will know the result of your action this day." A HUMAN SPIRIT SHALL BE REDEEMED.

The Governor took his leave, and the next day his private Secretary delivered the pardon of Jurdon Lancey, under the Seal of the State, and every thing requisite for a liberation of the prisoner.

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### CHAPTER IV.

Elmira Lawrence was a woman of some eighteen summers, of fair complexion, liquid eyes that could at all times beam the tranquility or the fire of the soul, of features not altogether feminine nor masculine, but well marked and expressive. She was what almost every one would call a beauty, but it was that kind of beauty that those love who are charmed with an exalted soul, delineated in the ex-

ternal form. She was of wealthy parentage, had received a thorough education, and, as the reader has already observed, had been carried by the inate truthfulness of her own mind beyond the popular philosophy into that which is more divine and eternal. She had been living at her present place for some months with a distant relative, on account of the proximity to the seat of Government, that she might feel the pulsations of the national heart, and enjoy the privileges of the State Library. Her parents did not appreciate her mental qualities, and hence she could not have the advantage of such books as she desired at home. She, as before observed, found very few with whom she could join a single cord of sympathy, but the company of her own reflections, and of the authors whom she summoned to her presence in their works, were sufficiently varied to afford all the recreation she desired. Not being desired to assist in the domestic affairs of the household, she employed some portion of her time in cultivating flowers, many of which she transplanted from the native wilds, having gathered them while on one of her botanical rambles.

From the seclusion in which she confined herself, she did not meet the fashionable world, nor contract many male acquaintances who could appreciate her inclinations and habits—or if one was found to truly estimate her worth, he felt a kind of awe in her presence, and that familiarity would be intrusive. The ground on which she trod was holy, and the atmosphere about her pure. The most intimacy she had enjoyed with a gentleman was her recent interview with Junius Langdon, who had been attentive to her since his acquaintance, contracted as related in the first chapter.

But we must resume our narative. Elmira presented herself on the next morning at the gate of the prison, and of the one who opened the gate she enquired—

"Is Jurdon Lancey confined in this Prison?"

"He is,"

"Can I see and speak with him?"

"It is not permitted to visit one of the convicts in private,"

"Can I see the Warden?"

"I will call him."

It is remarkable that in the roughest society woman will always meet with civility. This man would have appeared differently if the visitor had been a man; but being a woman he was ready to afford all the privileges, and extend all the courtesies within the rules of the establishment. The Warden appearing, she said:—

"I have called to see, in private, a convict named Lancey."

"I am sorry to tell you that the order of the Prison will not permit you to see him."

"Not if I were his sister?"

"Not in such a case."

"Not if I were his mother?"

"Not even then."

"Not if I were his wife?"

"Not in that case either. Mr. Lancey is the most desperate case in the Prison, and no favor should be extended to such arch villains. He is the most dangerous man in the State, and must be shut out from all the world during the long period for which he is sentenced."

"Then I demand his release by virtue of these papers," said she, with an expression of abhorrence for such cruel regulations.

The Warden took the documents and started with surprise on beholding a pardon from the Executive Chief of the State. But there was his hand and official seal that could not be resisted.

"And tell him to call at the mansion to the right, across the valley," she continued, and bidding the Warden good morning, departed.

The pardon was carried to the Prisoner who was astounded on hearing it, and agitated by many conflicting thoughts that crowded upon him. His chains were unclenched, his change of dress and five dollars in money handed him, with a tone and bearing that would say, go but I expect you will soon be here again or led upon the scaffold. Lancey could not fairly interpret his meaning for he had long been accustomed to such treatment. He could only ask for the person to whom he was indebted for this favor, but received only the reply that a young woman presented the pardon at the gate and left in the direction of the mansion to the right across the valley.

Lancey was affected to tears of gratitude for the kindness, that a moment before seemed an impossibility. Bad as he was thought to be, there was something of goodness in him that might be developed. He hastily took leave of the Warden and his keepers with a countenance that might be interpreted, would that you were better men than you are, and understood the nature of a human spirit. He departed, and as the iron gate was closed upon him, he started under the thought of freedom, turned quickly toward the guard houses as if he expected more than one gun were leveled at him. Collecting himself and realizing the change he had made, he bowed his head in deep feeling, and in perplexed thought moved for the mysterious mansion where might be found the wonderful woman who had involved him in such a debt of gratitude.

On meeting Elmira and hearing from her own melodious voice that she was the woman whom he sought, he was choked with the gush of feeling that welled up from the heart, and in silence they shook hands. Lancey dashing the quick tears from his eyes, and in silence they sat musing upon the past in which they had been mutually concerned. He rested his head upon his arm supported by the back of his chair, and thus passed the most profitable moments of his whole life. Elmira looked mildly upon him as he sat there a monument of penitence full of inexpressible gratitude for the service she had rendered. She comprehended his feelings and saw that the antidote she had administered worked favorably and needed no aid. That silence was more eloquent than words. It was an effectual prayer to the source of all goodness for grace and sustenance. It was a man coming to the God of Truth for the New Birth. Elmira was there—and there the ministering angel to his soul whose sweet communings needed no words to transmit its feelings and emotions, its sympathies and inspirations. This was a true communion of spirit in which the strong succored the weak, and the penitent received strength and was moved to more noble resolution. For two hours they there sat in silence which was only broken by his footfall on departing. As he rose, he stole a glance at his angelic savior which was returned by a look beaming with hope and encouragement for the honest seeker of Truth and Beauty and Bliss. He left for the

day stronger in the power of virtue than he had ever been, and swearing upon the altar of his own soul to emulate that spirit that leads upward to the Good and the True.

Having just left the Penitentiary of course his purse was light, and he was compelled to obtain some employment to supply immediate demands. He was a shoemaker by trade and soon found enough to do. He toiled at the bench a large portion of his time, and readily obtained a competence.

The next day he called again upon Miss Lawrence, and was sufficiently composed to enquire the motive which had induced her to interfere in his behalf.

"A HUMAN SPIRIT MUST BE REDEEMED. The associations of Prison life are little calculated to facilitate a redemption. Guns and chains and clubs are poorly calculated to preach lessons of love to the soul. My mission is to show the world the mode of reformation for convicts as well as greater sinners who are not convicts. You are selected as one to aid me in this mission."

"I will go at thy bidding—whatsoever you wish I am ready to perform. I am, though young, the darkest of criminals, and I can bring to thy aid but the wreck of a spirit."

"The darker your crimes, the more glorious will be the example of your reformation. I would have you to study goodness for the future as diligently as you have studied evil in the past. Do this and you are safe."

"That seems a difficult study. The mass call such terms as truth, goodness, wisdom, virtue, love and so on, cant and insipid phrases, while blood, murder, villain, and all the terms that speak of vice and crime are full of freshness and attraction."

"Alas! this is the perversion of the age; men seem to loathe that which is good and spiritual, and to delight in dwelling upon all that is vile and woeful. If the tide of thought could be changed, if the higher faculties of our nature could assume the sovereignty, the reformation of mankind would be speedy. If thou art resolved to become like me a reformer whose duty it is to do good continually and never listen to the least temptation to evil, I will advise you now. In entering that profession you may be despised more than you ever have been; but this treat-

ment from the world is as the steel to the flint, in whose concussion light and heat that were before latent are now evolved."

"How can I become worthy of such a holy office?"

"Look to the model man—the man of Calvary who "went about doing good." Study the lives of the purest spirits of the past ages, such as Fenelon, Howard, and Penn, and fail not to notice the meekest, most benevolent and holy of living mortals. Imitate their examples as far as they are without fault. These will assist you in forming an ideal of Excellence far above them—a model yet unnattained which you can have constantly before you, and toward which you will be conscious of advancing if you frequently commune with your own spirit, and cultivate a quiet and warm disposition, so that angels can minister unto your spiritual wants. Study the nature of your mental and physical constitutions that you may know what constitutes perfect organizations, and what course will best conduce to general health. Study books of science that you may know something of the world in which you live. Cultivate an acquaintance with the poets and the artists, that you may appreciate the beautiful and the lovely. Toil for food, clothing, the means of mental culture and of doing good to others, and you will fulfill your mission."

These words excited the intense thought of Lancey, who bowed his head in meditation as though a new world had opened before him.

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## CHAPTER V.

It is rare that a crime or even an immorality is committed with deliberation. That is not always deliberation which the law construes as such. To deliberate we must have the uncontrolled use of all our faculties; for, as that would not be a valid law to which one of the essential branches of the law-making power did not assist, so that is not a deliberate act in the determination of which one or more of the intellectual or moral faculties that ought to be exercised in the case, was paralized. Immoralities may be committed because of the ig-

norance, the intellectual or moral dullness of the actor; in which case, the act, though wrong because of its injury is without moral character, as is the injurious act of a wild animal that acts from a blind instinct and without the exercise of moral faculties.

Few individuals are without their vice, because of some defect in their intellectual or moral natures, or because of their deficiency of knowledge in relation to right and wrong, virtue and vice. The clergyman in his pulpit, it may be objected, knows the immoral character of an act against which he is preaching and yet is in daily practice; to which it may be replied that the habit of committing the act has a stronger hold upon his propensities, than the moral force of his nature is able to resist. Should he add to this force he would reform the habit. In this case there is a weakness in certain of the deliberating faculties that forces us to acknowledge, that even the divine all robed in the christian mantle commits vices without deliberation.

We see here what is understood by temptation. It appeals to certain faculties, stimulutes them beyond the harmony essential to sanity, and to such a degree as to be beyond the restraining influence of other faculties. In this case a crime or an immorality is necessarily the result. Here we see what is meant by resisting temptation; it is a strife that is waged against the faculties urged to an excess which is wrong. When the conservative powers are weak, the strife will soon cease, and the agent be carried amid the giddiness and confusion of an irresistable infatuation. Acquisitiveness stimulated beyond the control of Conscientiousness will lead to theft, burglary, robbery, indeed, to any act that promises the gratification of the ruling power of the mind.

On these principles do we account for the wrong of human action, and for the singular phenomena frequently presented in the moral world. We are frequently astonished at the aberrations in the conduct of some of those whom we had regarded as moral models. We are often startled by the fall of one who was, in many respects, among the first of natures' own nobility. Such individuals will perhaps pass on blamelessly to the middle age of life, and then by a temptation stronger than he had ever

before encountered, be hurled from his moral elevation.

This thing of wrong doing then is the result of insanity —as truly so as are the incoherent babblings, reckless action and wild ravings of the madman. The difference is in degree only. Every mental unbalance is an insanity, and to make a maniac we have only to carry this mis-balance to the extreme.

Here, also, we behold the secret of moral reformation. If the powers that impel to goodness can be aroused to adequate resistance of evil, and on all occasions preserve their controlling force, the moral victory will be achieved. To reform a culprit whose perverted faculties seem to irresistably impel him to evil, we must make a stronger appeal to his interior soul than would be required in a less aggravated case. The appeal which Elmira Lawrence had made to the dormant spirit of Jurdon Lancey was one of the strongest that could be made to human nature. Without other motive than a desire to benefit her race, disconnecting herself, from the fashionable society that shrinks from the poor, unfortunate and miserable as from loathsome objects, and bearing the opposition and ridicule she would meet from the genteel of the world, she had procured the liberation of one unknown to her, who had just commenced a long term of Penitentiary service. Such an act was appreciated by him and the gratitude he felt, the reader has already imagined. The moral beauty that had thus been exhibited to him could not be vitiated, and he resolved to become a good man and consecrate his future life to the service of virtue, humanity and God.

But Lancey now stood upon slippery ground," for though he should for days and months feel renewed in spirit, and think himself planted securely upon the " rock of ages," yet should at a moment when he thinks himself the safest he might be the weakest. Such an individual leaves the watch-tower of the soul when he deems himself secure—the newly awakened faculties relapse, the chained devil breaks his fetters and assumes the supremacy.

On the following fourth of July, the great day for patriots, Lancey was abroad sharing the tone of the occasion. The drums were beating, the fifes playing, the flags flying, and the youthful were hurraing for liberty, freedom and independence. The old revolutionary soldiers, just ready to

leave the land for which they had fought, for their final bourne, were relating to the crowds gathered around the story of their trials, in the cause of freedom, the dangers they encountered, the hardships they endured, and the battles they fought in that memorable struggle. Lancey listened to these conversations and he felt his strong faculties once more aroused. His ambition that had been so outraged in youth, that he sought its gratification in leading a banditti of criminals, was again stimulated by what he heard and saw on this occasion. The false notions of personal independence and dignity that he once entertained were again awakened, and the pure feelings and noble thoughts that had been aroused within a few months past were almost forgotten.

Lancey had become somewhat notorious as an example of a woman's power in reforming the base, and wherever he went he encountered the malignant leers of the low, and the expressions of contempt pictured upon countenances that mirrored souls unworthier than his.

On such occasions the gaping multitude are always in search of something to engage their lower natures. As the excitement, increased they become more reckless until they were ready to victimize almost any one who might be repugnant to their base feelings. The side leers and contemptuous expressions that Lancey met began to be communicated in a more tangible form. As he passed, the harsh exclamation "there goes a convict" saluted him, and crowds would gather round to gaze upon so distinguished a personage. The plot continued to thicken until in the afternoon when the ordinary matters of interest had become exhausted, and the rabble grew warmer with exciting beverages, a man of decent garb and respectable appearance pointed to Lancey with exclamation, "there is the convict who is said to owe his liberty and reformation to the pretty woman that lives across the river!" Straightway the crowd hooted and followed after, taunting him with his crimes. He resisted the rising indignation of his nature until it was too much to endure, and he swore vengeance upon the man who had begun the insult and set on the multitude. The accusation of crime, of cowardice and the insults heaped upon himself, and the pure being who had guarded him for the past two months, he felt that he could

not brook. Anxious to try his spirit and under a pledge that he could get him again into crime, an individual fell in with him under friendly pretences, saying that he ought not to endure such abuse, and directing his attention to the man who had commenced the fray, he secretly placed into his hand a knife bidding him use it in case of necessity.

Lancey passed round to where his enemy was standing and suppressing his rage, enquired:

"Did you intend to insult me by the language you used a few moments since?"

"Insult *you*—you have not character enough to insult," was the heartless reply.

Infuriated beyond further control, Lancey sprang toward him and with a blow levelled his foe to the ground. Recovering his feet, and conscious of his physical power, he expected to chastise Lancey with a few blows, and the next moment the pardoned convict was prostrated. The crowd gathered round in great numbers to witness the fight, and stimulate the passions of the combatants. Lancey recovered himself and renewed the attack. Being bent more upon vengeance than the honor of what is called a fair victory, he bethought himself of the knife that had been presented to him, and drawing it hastily he was about to plunge the blade into the heart of his antagonist, when his arm was paralized by the voice of a woman crying, "hold," as she made her way through the crowd. Jurdon was not so nearly self-annihilated as not to recognize the voice of his guardian spirit. Quick as a flash she caught his arm and raising the weapon threw it far into the street. Taking him by the hand she said, "come this is a fatal spot for thee, there is too little quietude for thy too turbulent mind." Lancey glanced at the heavenly countenance of his preserver, and was mute with astonishment. A thought, and his holier nature was rallied, he felt condemned, and guilty not only of a disturbance of the peace and an attempt upon the life of a fellow, but above all, guilty of forgetfulness and ingratitude toward his liberator and benefactor. Imagine the feelings of a naturally noble mind under such circumstances! The silence of dumbness pervaded the gaping crowd over whom Elmira had cast a serene and holy influence. No hisses nor expression, of

contempt escaped a single lip—a power was upon them and they felt that it was no trifling thing to *redeem a human spirit.* They almost wished she could remain a brief space that they might adore her as the Queen of the virtues. But no, she had been sent to lead her ward from the precipice over which he was about to leap, and quickly moved away. The antagonist of Lancey soon recovered himself sufficiently to see his position and recognize the hand that had saved him. He also felt condemned for abusing the hitherto unoffending Lancey. He was not insensible of gratitude to Elmira and hastened on her track to thank her for her interposition. Approaching them he manifested the honesty of his repentance and said:

"Will you forgive me Mr. Lancey? I have deeply wronged you—I feel it and crave your pardon?" He brushed the big tear drops from his eyes, and Lancey replied:

"I have nothing to forgive. I should not have permitted a few idle words to so unman me. If, however, you desire me to pronounce the word forgive, I most cheerfully do and give you my hand as a token of future friendship."

"And this lady with you—how shall, I repay the debt of gratitude I owe thee? I owe my life to thy interposition, and what service can I render for such assistance?"

"I ask no service" she replied. "If I have served you I rejoice in it. If I have saved your life, all that I ask is that you hereafter prove that life to have been worth purchasing.

This was uttered with such sweet severity that it penetrated the heart of the heretofore too reckless man, and feeling not only their acutest penitence, but rising in spirit unto the pure influence of a higher sphere, he fell upon his knees before her exclaiming:

"Hear it ye powers that made the world and rule the universe, accept the offering of a broken spirit and record the consecration I now, in this holy presence, make to the service of truth and goodness. Hereafter I shall be resigned to thy will and obedient to thy commands. Assist me by thy grace, and bless her who has ministered to the spiritual wants of thy unfaithful servant, and forget not him whom I have so wronged by cruel speech. Sustain him in

every trial that he may also sustain thy suppliant in the pilgrimage he now commences."

"Amen"—escaped from their united voices, and from many of these who had quietly gathered around. They separated mutually blessed by the recent occurrences. The crowd silently dispersed to their several homes and Elmira was the imaged angel to their minds, and the theme of many tongues for days, and months, and years. The gossipping community ceased their slanders and gradually changed their scurrilous insinuations to praises.

Elmira did not chastise Lancey for his desertion of her and of virtue, because she knew his feelings were wrought up to their highest tension. She knew his weakness, and that the result had placed him upon higher ground than he ever occupied. They separated for their respective homes, he stronger than ever in virtue, and she fully persuaded that *a human spirit can be redeemed.*

The appearance of Elmira so opportunely was not merely accidental. It was not a remarkable coincidence, a lucky hit merely, but the result of more deliberation than might be imagined were the matter not thoroughly understood. She saw the future by reason of that mental illumination which is vouchsafed to the "pure in heart." Her intuitions, her presentiments, and the impressions from the world of spirits revealed her duty, and in obedience she wandered out on this day of danger to the being entrusted to her care, that she might be near to shield from danger.

Years passed, and Jurdon Lancey the convict, became Jurdon Lancey the honored and beloved. All delighted to pronounce his name—the rich because they could not withhold esteem, the poor because he had frequently given them substantial evidence of his sympathy, and the criminal because he appreciated their condition and had often ministered unto them. His life had been characterized by industry, sobriety and economy, and complete success had crowned all his efforts. He threw himself into all public enterprizes and contributed to them his unflagging energies. His relations with Elmira became more intimate than those of a friend and adviser, and their home was one the angels blessed, and Lancey was a living example of a REDEEMED HUMAN SPIRIT.

## Art. XXV.—BATTLE FIELDS.

There are battles, fierce and many,
  By our valor to be fought,
And we want for soldiers any
  Who will fight as brave men ought;
Not with sword of glittering steel
  Laying waste the fruitful land,
But with truth upon their lips,
  And the Bible in their hand.

Half the world are shut in darkness
  In the prison-walls of death;
Blood is reeking on their garments—
  Pestilential is their breath;—
Let us march to give them freedom,
  The pure light of day to see---
Cast aside your carnal weapons!
  'Tis the Truth shall set them free!

Voices call upon us now,
  Out of war's abominations---
"Preach to us the saving truth,
  Preach a brotherhood of nations:
Earth has long enough been stained
  By its cain-commending slaughters"---
Who will fail to heed the call,
  And to bring the cleansing waters

Shall a man henceforth be found
  Spotted o'er with brother's blood?
Let him humbly turn to God
  For the purifying flood:
Gory laurel-wreaths the warrior
  In the deadly strife may earn,
Gnawing in like molten lava,
  On his shrinking brow shall burn.

Error's chains that long have held
  Earth in bondage dark and cold,
Fast are breaking, fast are falling,
  Now a single link doth hold---
Who will help to strike the blow
  That this straining link shall sever!
It shall be a joyous stroke
  That shall glad his heart forever.

While the western Ophir calls
  Thousands in its dross to share,
Let *us* search the human heart
  For the diamond hidden there:
What if scorn at first shall meet us?
  Love and hope shall urge us on---
None shall ever fail who battle
  With the weapons of St. John.

Let us quickly then prepare
  For the strife the needed shield:
Are we few?---then more's the need
  We should quickly take the field:
Full of faith and full of hope,
  Forth we'll go, a conquering band,
With the truth upon our lips
  And the Bible in our hand!

---

## Art. XXIV.—OHIO, HER RESOURCES AND PROSPECTS.

Ohio is worthy an article.

1. Her POPULATION at the various periods at which her census was taken is as follows:

| | | | | |
|---|---|---|---|---|
| 1800 | - | - | - | 45,365. |
| 1810 | - | - | - | 230,760. |
| 1820 | - | - | - | 581,434. |
| 1830 | - | - | - | 937,903. |
| 1840 | - | - | | 1,519,467. |

This shows an increase from 1820 to 1830, of 62½ per cent, and from 1830 to 1840 of the same amount. If we calculate the population for 1850 at the same per cent we shall have for 1850, 2,459,132.

There is no doubt that this is even below the true increase, for the population of her principal towns has increased more than 100 per cent during the past ten years.

The population of Pennsylvania at the various census was as follows:

| | | | | |
|---|---|---|---|---|
| 1790 | - | - | - | 434,373 |
| 1800 | - | - | - | 602,365 |
| 1810 | - | - | - | 810,091 |
| 1820 | - | - | - | 1,049,450 |
| 1830 | - | - | - | 1,348,233 |
| 1840 | - | - | - | 1,724,033 |

This shows an increase from 1820 to 1830 of 29 per cent, and from 1830 to 1848 of 28 per cent. If we calculate the same rate of increase for 1848 we shall have for 1850, 2,206,762. We thus see that Ohio has already superceded Pennsylvania, and stands second only to New York in this great confederacy.

The population of New York at her various census was as follows:

| | |
|---|---|
| 1790 - - - - | 340,120 |
| 1800 - - - - | 587,756 |
| 1810 - - - - | 959,049 |
| 1820 - - - - | 1,372,842 |
| 1830 - - - - | 1,918,608 |
| 1840 - - - - | 2,428,921 |

This shows an increase from 1820 to 1830 of 40 per cent and from 1830 to 1840 of a little more than 25 per cent. It will be liberal to calculate the increase of this State for 1850 at 25 per cent—we shall then have for 1850, 3,036,151.

As to population, therefore, the two great states of the Union, will stand thus:

| | |
|---|---|
| New York - - - - - - | 3,036,151. |
| Ohio - - - - - - | 2,459,132. |

2. The AREA of Ohio is 40,500 square miles, or 25,920,000 acres. Of this extent at least 25,000,000 acres are good agricultural land—a fact that tells greatly for her prospective wealth, because no equal extent of country on the surface of the earth can be found having so little waste land as Ohio. The number of acres assessed in 1848 is 23,667,056, which were valued at 261,774,490, being at the rate of $11 per acre.

To this we must add the value of Town lots $69,220,783 making $330,995,273 as the value of the real estate of Ohio. The personal property was assessed at $90,072,718 making an aggregate of $421,067,491 as the assesed wealth of this state for taxation. This is probably a little more than two-thirds the real value of the property of Ohio. Indeed it bears about their proportion of little more than one half in the estimate of the Commissioner of Patents in 1847. The assessment gives to each person $168 worth of property, or $840, to each family of five persons. But if we put the real value at $600,000,000 we shall then have

nearly $250, for each person, or $1,250, for each family. Mr. Seaman in his supplement to the Progress of Nations puts the wealth of Ohio in 1840 at $344,154,000 or $228 per head, or $1,140 to each family. The population of Ohio has become more stable and less floating; she will furnish double this amount to each person or family.

The AGRICULTURE of Ohio constitutes her gold mine. In 1840, according to the calculation of Mr. Seaman, the agricultural capital of Ohio was $223,266,000. In the Auditor's report for 1848 we find the assessed value of the agricultural lands to be $261,774,490. If we add to this the value of domestic animals, horses, mules, cattle, sheep and hogs amounting to $30,995,147, we shall have $292,769,637. To this should be added the value of implements amounting to about ten per cent, which would give about $322,780,640, as the aggregate of agricultural capital. If Mr. Seaman's calculation be correct, we shall approximate now nearly the truth, by adding 62½ per cent to the estimate for 1840—this being the rate of increase of population. This gives $350,307,750.

The various kinds of agricultural property are as follows:

| | | |
|---|---|---|
| Lands, acres | 23,667,056. | $ 261,774,490 |
| Horses, number, | 492,509 | 16,856,841 |
| Mules, " | 2,098 | 78,958 |
| Cattle, " | 983,822 | 9,729,929 |
| Sheep, " | 3,677 171 | 1,988,316 |
| Hogs, " | 1,879,689 | 2,341,106 |
| Implements, value | | 30,000,000 |
| Total | | 322,780,640 |

The above, with the exception of the implements, are the returns of cattle and horses, over two years old, of the assessors for 1848. All ages included would probably give the following table of Domestic Animals.

| | | |
|---|---|---|
| Horses, number, | 700,000 | $ 25,000,000 |
| Mules, " | 2,500 | 100,000 |
| Cattle, " | 2,000,000 | 16,000,000 |
| Sheep, " | 4,000,000 | 2,000,000 |
| Hogs, " | 2,000,000 | 2,500,000 |
| Land | | 275,000,000 |
| Implements, | | 30,000,000 |
| **Total,** | | **$450,600,000** |

The following table of the annual agricultural productions of Ohio may be regarded as very nearly correct.

| | | | |
|---|---|---|---|
| Horses and Mules, | | | $ 6,500,000 |
| Cattle, | | | 5,500,000 |
| Sheep, | | | 6,000,000 |
| Hogs, | | | 10,000,000 |
| Poultry, | | | 1,400,000 |
| Wheat, | 28,000,000 | bush. | 18,000,000 |
| Barley, | 350,000 | " | 200,000 |
| Oats, | 25,000,000 | " | 6,000,000 |
| Rye, | 1,500,000 | " | 750,000 |
| Buckwheat, | 1,400,000 | | 500,000 |
| Maize, | 50,000,000 | | 15,000,000 |
| Potatoes, | 10,000,000 | | 2,500,000 |
| Hay, | 3,000,000 | | 15,000,000 |
| Hemp & Flax, | 16,000 | tons | 650,000 |
| Tobacco, | 10,000,000 | lbs. | 500,000 |
| Sugar, | 5,000,000 | " | 300,000 |
| Wood, | 8,000,000 | cords, | 8,000,000 |
| Dairy, | | | 12,000,000 |
| Orchards, | | | 4,500,000 |
| Home made goods, | | | 5,000,000 |
| Gardens, | | | 2,000,000 |
| Land cleared and fenced, | | | 6,000,090 |
| Total, | | | $126,300,000 |
| No. engaged in Agriculture in 1848 | | | 500,000 |
| Amount to each, | | | $252 |

We will now estimate the Agricultural capability of Ohio. We can set down the whole soil for cultivation, as there is plenty of fuel beneath the surface. We distribute the crops as follows:

| | ACRES. | BUSHELS. | VALUE. |
|---|---|---|---|
| Wheat, | 4,000,000 | 160,000,000 | $128,000,000 |
| Corn, | 6000,000 | 480,000,000 | 180,000,000 |
| Pasture, | 6,000,000 | | 100,000,000 |
| Meadow, | 6,000,000 | | 60,000,000 |
| Total, | | | $468,000,000 |

In this total, 8,000,000 acres are set down to wheat—4,000,000 to be under seed every year. As wheat is not grown only every alternate year, we have reconed 2,000,-

000 per year, of wheat ground with the pasture lands, because 4,000,000 acres of wheat land would be pasture and every alternate year. We have calculated 30 bushels of wheat and 80 bushels of corn as the yield per acre, because the day is not distant when agricultural improvement in Ohio will cause even more than these quantities to be produced.

4; In MINERAL resources, Ohio is not deficient. As to coal, she is abundantly supplied. About one half the area of the state is underlaid by coal, and 5,000 square miles by workable beds of this valuable mineral. "In many cases several successive beds of coal are superposed one over the other, with Sandstone iron ore, slate and limestone intervening. The coal beds are favorably situated for working as they are found in hills and ravines where they can be drained with little expense and without deep shafts and expensive machinery, like those of Europe, or some parts of our own country."* It is calculated that a bed six feet thick, covering an area of 5000 square miles is not an over estimate of our resources in this combustible." Every square mile, containing two yards in thickness of workable coal will yield about 6,000,000 tons, which is an abundant supply of fuel for all the people of this state, both for domestic and manufacturing purposes; and if we allow double this amount for prospective consumption, in consequence of increased population and manufactures, we have coal within a moderate depth, sufficient for consumption during 2500 years."*

"That portion of the coal measures of the valley, which is within this state, occupies a space of about 180 miles in length, by 80 in breadth, extending in a south westerly and north easterly direction along the border of the Ohio, from Trumbull County to the mouth of the Scioto. These immense fields will furnish fuel for a larger population than the soil of Ohio can support for ages; and when the surface beds are exhausted, much thicker ones will be found by sinking shafts to the depth of a few hundred feet, as all coal beds are thinner in their out-crop, or near the mar-

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* Mather's Report.
* Dr. Hildreth's Geological Report.
Mather's 2d. Report.

gins, than in the centre of the basin. Of these facts we have proof, not only from foreign fields, but from the disclosures made in boring coal walls in our own state."

"The coal formation of Ohio has its Western and Northern boundary along an irregular line drawn nearly east and west through the northern part of Trumbull County; then south easterly, across Portage County; east of Akron, across a small corner of Medina, to include about one quarter of Wayne, one half of Holmes, three fourths of Coshocton, near the nothwest corner of Muskingum; then south to a little east of Logan; thence south, southwest to Jackson, C. H. and to near the mouth of the little Scioto. The boundary continues thence south-westerly to the south of the south-forks of the Kentucky, and of the Cumberland river, and thence continues into Tennessee, beyond the line of which I have not traced it. From the point on the north, in Ohio, where I have indicated the line, the northern boundary sweeps onward to the eastward in Pennsylvania, to the Alleghany, thence southward, by Cumberland, in Maryland, on until it probably joins the line first traced in Tennessee or Alabama. This coal formation lies an area of about 50,000 square miles, and forms a part of at least six states."*

"The estimate of the coal of Ohio last year, was intentionally placed at the lowest calculation, viz: a vein, the thickness of six feet, in order that two exalted ideas of the amount of coal under our soil should not be entertained The investigations and the measurements of the past season, justify the conclusion, that in some of the counties there is a thickness of twenty to thirty feet of workable coal. In the before mentioned estimate, I showed that Ohio possesses coal enough for every contemplated increase of population and manufactures for twenty-five hundred years, we may now feel that there is not only sufficient for domestic use for any reasonable time, but to supply the country around the lakes, and throughout the valleys of the Ohio and Mississippi, for as long a time as it is proper to calculate."* The amount of coal in Muskingum County, is estimated a 349,712,000 cubic yards, a yard being nearly equal to a ton. The amount of coal in Hocking and Athens Counties

* Mather's Geological Report.

as estimated by Mr. Briggs, assistant geologist, is 3,000,000 tons. In Tuscarawas county there is 3,300,000 tons of coal.

The coal of Ohio is one of her richest elements of wealth —next perhaps to her agriculture. She will be able not only to supply herself for almost countless ages; but will make it a profitable item of exportation.

We will conclude this part of our paper, by noticing the receipts of coal at Cleveland by the Ohio canal for several years past.

| | | |
|---|---|---|
| 1838 | 73,292 | bushels |
| 1839 | 134,881 | " |
| 1840 | 172,206 | " |
| 1841 | 478,370 | " |
| 1842 | 466,844 | " |
| 1843 | 387,834 | " |
| 1846 | 850,931 | " |
| 1847 | 1,212,8871 | " |
| 1848 | 1,925,451 | " |

The Iron ore of Ohio covers a very extensive portion of the State. In some places its bed is too thin to be worked with profit, and in others it is mixed up with too much siliceous matter to be readily worked in a furnace by the ordinary treatment.

A bed of this ore in Athens County, is two feet in thickness but has been only partially opened. Loraine and Scioto Counties abound in iron, and many furnaces are working it. The beds of ore are easy of access, and associated with materials necessary for its reduction, cannot fail to be immense sources of wealth. Most of the workable beds of ore are above the first workable bed of coal. The amount of workable iron ore in Muskingum County is estimated at 153,600,000 cubic yards, which, when smelted will yield about that number of tons in pigs. But we need not specify localities. Mr. Briggs closes his Report on iron ores by the following:

"A very low calculation of the amount of good iron ore in the region which has this season been explored, is equal to a solid, unbroken stratum, sixty miles in length, six miles in width, and three feet in thickness. A square mile of this layer—being equivalent in round numbers, to 3,000,000 cubic yards—when melted will yield as many tons of pig iron. This number multiplied

by the number of square miles in the stratum, will give 1,080,000,000 tons; which, from these counties alone will yield annually, for 2,700 years, 400,000 tons of iron—more than equal to the greatest amount made in England previous to the year 1829.

The counties referred to in this extract are Scioto, Loraine, Gallia, Athens, Hocking and Jackson. The iron ores of this portion of the State, are thought to be not only sufficient to supply all domestic demands for ages, but to form an important article of commerce with other states.

In mineral waters, the State is not deficient. These may not be considered very productive sources of wealth, but they are highly prized by many for their healthful properties. Col. Whittlesey in the topographical survey he made of various counties, reports an abundance of mineral springs—especially such as contain sulphur, as well as those which deposite the oxide of iron. Mr: Brigg's reports that in Crawford County, the mineral springs are among the most interesting objects of investigation. They are such as are most valuable for their medicinal properties. In this county are four large sulphur springs, one copious gas spring and several chalybeate springs. Near Zoar in Tuscarawas county, is a sulphur spring used by the community for medicinal purposes. Other sulphur and chaleybeate springs are in this county. In Ross, Green, Butler and other counties are also copious mineral springs.

Ohio also abounds in Salines and could if necessity required, manufacture her own salt. Dr. Hildreth reports that,—"portions of the valley of the Ohio, if not the whole of it, from its north eastern extremity to its western outlet may be said to be based on saliferous, or muriatiferous rocks affording an abundance of water highly charged with a muriate of soda." Near the Ohio river, the strata above the salt-bearing rocks are more than twelve hundred feet thickness so that borings must be carried to a great depth. The salt bearing rock is a white porous sand rock, having in some places a reddish appearance.

On the Muskingum, near McConnelsville, there are two distinct stratas of this rock, known as the upper and lower salt rocks. The distance between them is over four hundred feet. The upper one is about twenty five feet in thickness, and affords much less brine than the other.

lower rock is forty feet in thickness, and not only furnishes a stronger water, but also an unlimited quantity. Near the centre of Jackson county is one of the earliest known salt springs in the western country, and may rank with the "Big Bone," and "Blue Licks" in Kentucky. Fossil bones of the Mastadon and the Elephant have been found there at the depth of thirty feet imbedded in the mud and clay. Before the country was settled by the whites, it was visited by multitudes of buffalo or bisons, deer, bear, and all the forest animals, which, at certain seasons made the country most valuable hunting ground, for the Indians. The primitive inhabitants made salt here in great quantities as is known from some of the white captives and from the remains of their fires. Considerable salt was manufactured here from 1806 to 1808, when there were twenty furnaces in operation, making on an average from fifty to seventy bushels per week. At this time salt was worth $2,50 per bushel. No less than fifteen acts were passed in relation to the Scioto Salt Works, while under the contract of the State.

In Deleware county, salt-water was procured in 1817, from a boring of 200 feet in depth, of which 200 gallons made 50 pounds of salt.

J. W. Foster, one of the Assistant Geologists of the State, reported in '38, on the Salt of Muskingum county as follows:

"The salines of this county are probably the best in the State with the exception of those on the Hocking. No less than 50 wells have already been bored. Salt water can be obtained of a sufficient strength, and in sufficient quanties to justify the investment of a large capital. To show the strength of the diffierent salines in America, permit me to lay before you the following table, compiled with great care by Dr. Beck, of New York.

| | | | | | | |
|---|---|---|---|---|---|---|
| At | Nantucket, | 350 | gallons | yield | one | bushel. |
| " | Boons Lick, (Mo.) | 450 | " | " | " | " |
| " | Conemaugh, (Pa.) | 300 | " | " | " | " |
| " | Shawneetown, Ill.) | 280 | " | " | " | " |
| " | Scioto Licks, (O.) | 213 | " | " | " | " |
| " | Lockhart's, (Miss.) | 180 | " | " | " | " |
| " | Shawneetown, 2d. | 123 | " | " | " | " |
| " | St Catherines, W. C. | 12 | " | " | " | " |
| " | Zanesville, | 95 | " | " | " | " |
| " | Muskingun, | 90 | " | " | " | " |

| | | | | | | |
|---|---|---|---|---|---|---|
| " | Kenawha, (Va.) | 75 | " | " | " | " |
| " | Grand River, (Ark.) | 60 | " | " | " | " |
| " | Onondagua, (N. Y.) | 45 | " | " | " | " |

Thus it will be seen that the Muskingum Salines yield the greatest per cent of salt with the exception of Onandagua, Kenawha and Grand River. But when we take into consideration the greater facilities for its manufacture, which we possess, in the abundance of coal, we have every reason to believe that this branch of industry is yet in its infancy."

At this period the quantity of salt manufactured in this county was estimated at 100,000 bushels. Some of the wells produce 10,000 bushels per year.

The Hockhocking valley also abounds in salt. One well in Athens county produces 12,000 gallons in 24 hours sufficient to make 110,000 bushels per year. The brine yields 50 pounds to 75 gallons.

But we will not dwell upon the saline resources of the State, as they will not be made very productive as long as salt can be imported at a cheaper rate than it can be made at home. The day may come when they will be extremely valuable. They at least show that as far as this article is concerned Ohio can be independent of other States.

With the productions of the Quarry Ohio is well supplied. All the western half of the State, the Blue and Mountain Limestone furnishes the building materials needed from the quarry, of beautiful and desirable quality. In the South-eastern and eastern portions a good building material is derived from the sand-stone formation. Burr Stone is also abundant in the South-eastern part of the State.

We might here foot up the probable annual value of the mineral productions of Ohio for 1848.

| | |
|---|---|
| Iron, - - - - | $2,000,000 |
| Cool, - - - - | 2,000,000 |
| Salt, - - - - | 100,000 |
| Stone, - - - - | 1,500,000 |
| Total. | $5,600,000 |

### 5.—Commerce.

For 1840, Mr. Seaman calculated from the census the

annual production of the commerce of the State to be $12,238,382. If we add the rate at which population has increased, say 62½ per cent, we shall have $19,877,377 as the value for 1848.

The imports of Cincinnati, were as follows:

| | 1848. | 1847. |
|---|---|---|
| Breadstuffs, | $ 1,339,348 71 | $ 3,213,432 79 |
| Provisions, | 4,697,272 39 | 3,239,185 17 |
| Dairy Products, | 526,621 50 | 513,752 10 |
| Fruits, | 127 100 40 | 165,211 55 |
| Naval Stores, | 38,367 50 | 19,137 00 |
| Sundry Produce, | 294,574 90 | 287,227 50 |
| Liquors, | 1,588,679 60 | 1,915,041 10 |
| Hides and Leather, | 549,550 15 | 369,208 96 |
| Metals, | 1,457,074 20 | 1,578,893 25 |
| Sundries, | 1,984,620 80 | 1,852,092 37 |
| Groceries, | 3,263,040 20 | 2,934,300 50 |
| Merchandise, | 45,461,700 00 | 34,335,400 00 |
| Lumber, &c. | 1,456,219 75 | 1,296,677 00 |
| Totals. | $ 62,784,276 11 | $ 51,633,559 31 |
| Increase. | | $ 11,150,710 80 |

The exports for the same periods, were as follows:

| | | |
|---|---|---|
| Breadstuffs, | $ 1,037,420 70 | $ 3,268,086 50 |
| Provisions, | 5,369,383 15 | 4,712,973 17 |
| Live Stock, | 115,964 25 | 434,102 01 |
| Dairy Products, | 374,663 58 | 175,202 00 |
| Sundry Produce, | 342,466 63 | 367,384 35 |
| Liquors, | 1,556,109 80 | 1,637,877 70 |
| Metals, | 658,936 40 | 343,026 59 |
| Sundries, | 53,585,768 63 | 44,085,897 04 |
| Groceries, | 1,053,509 25 | 686,919 00 |
| Lumber, &c. | 100,360 07 | 79,926 00 |
| | $ 64,194,582 46 | $ 56,791,394 27 |
| Increase of Exports, | | 8,403,188 19 |
| " Imports, | | 11,965,697 35 |
| Total increase, | | $ 20,368,885 54 |

Here we find an increase in one year of twenty per cent.

The Ship building of Cincinnati for the past three years is as follows, showing an increase of nearly 100 per cent in two years, or near 25 per cent during the past year.

| | Number. | Tonnage. |
|---|---|---|
| In 1847–8 | 29 | 10,233 tons. |
| In 1646–7 | 32 | 8,268 " |
| In 1845–6 | 25 | 5,657 " |

In one respect a difficulty attends a comparison of the commerce of 1848 with that of 1847. The foreign demand for Breadstuffs in 1847 drained our graneries, and consequently the export of these articles was much greater than in 1848.

At Cleveland the amount of Canal tolls collected

| | |
|---|---|
| In 1848 was - - - | $ 80,510 |
| In 1847 " - - - | 66,963 |
| Increase, - - - | $ 13,547 |

Here is an increase of over twenty per cent. The principle articles exported from this port for several years, were as follows :

| | 1846. | 1847. | 1848. |
|---|---|---|---|
| Wheat, bushels | 1,367,383 | 2,788,513 | 1,585,270 |
| Corn, " | 421,147 | 1,381,291 | 662,162 |
| Flour, barrels | 340,000 | 644,913 | 466,429 |
| Wool, lbs. | 1,281,400 | 1,443,428 | 1,407,261 |

The foreign demand, as intimated above, having cleared our graneries in 1847, caused the exports of grain to be less in 1848 than they would have been had not the Irish starved for our bread. The table shows an increase from 1846 to 1848 inclusive, of about twenty per cent.

The exports of principle articles from Sandusky city for several years, were as follows :

| | 1844. | 1846. | 1847. |
|---|---|---|---|
| Wheat, bushels | 487,211 | 843,746 | 1,818,574 |
| Corn, " | | 59,467 | 312,265 |
| Flour, barrels | 36,277 | 51,855 | 133,066 |

But not to pursue this point we can safely put the commerce of Ohio at the annual value of $20,000,000.

### 6.—Manufactures.

Mr. Seaman calculated the annual value of the manufacturing industry of Ohio, in 1840, at $13,368,358. If to this we add 62½ per cent we shall have $22,723,583 as the value of this branch for 1849. But this is far below the truth. By the census of 1840, it appears that the manufactures of Cincinnati alone amount to the annual value of $14,541,842. Mr. Charles Cist has calculated in a work entitled "Cincinnati in 1841," their annual value to be $17,431,670. Now if we add to this 62½ per cent, we shall have $28,328,090 as the value of the manufacturers of Cincinnati for 1849. Cincinnati doubtless does more than one half the manufacturing of the whole State; but we are safe in putting the whole at $40,000,000 in 1849.

The resources of Ohio for manufacturing are unsurpassed. She has abundance of water power, her coal beds are unexhaustible, her agricultural productions are not surpassed in quantity, quality and cheapness, and the facilities of communication to and from the State are all that can be desired.

To conclude this paper we may say that Ohio is able to furnish all the means of the most comfortable life to all her people. There is nothing which is really desirable that she cannot supply in great profusion. If it be said that she lacks cotton, we may reply that her flax and hemp, would more than supply its place, being more healthy and durable. Indeed it is supposed that a recent invention by a citizen of Louisville, will enable us to make neater and much more valuable cloth from hemp than can be manufactured from cotton.

We will here sum up the productions of this State.

| | |
|---|---|
| Agriculture, - - - | $ 126,300,000 |
| Mines, - - - | 5,600,000 |
| Commerce, - - - | 20,000,000 |
| Manufactures, - - | 40,000,000 |
| Fisheries, - - - | 200,000 |
| Forest, - - - | 1,300,000 |
| Total. - - - | $ 193,400,000 |

| | |
|---|---|
| Population, - - | 2,459,132 |
| Amount per head, - - | $78 00 |
| " " family, - | 375 |

It is well here to remark that in dividing the agricultural products among their number engaged in that branch, we took the number of actual laborers excluding women and children. In dividing the whole produce of the State in the last instance we have taken for a division the whole population.

A word now in relation to what Ohio can do. She can produce $500,000,000 of agricultural products which will feed 20,000,000 of people. She can manufacture every thing her people may want, and therefore as many can inhabit her soil as her bread can feed. In this estimate we have not gone beyond that made for Great Britain and Ireland by a distinguished writer who stated that their 75,000,000 acres could sustain 60,000,000 of people. Ohio has one third this area, and we have assigned to her one third this number of people.

We can safely say that Ohio will double her population within twenty years, after which she will not double it again in less than thirty years, and again short of forty years. Her population will then stand thus in whole numbers.

| | |
|---|---|
| 1850 - - - | 2,500,000 |
| 1870 - - - - | 5,000,800 |
| 1900 - - - | 10,000,000 |
| 1940 - - - - | 20,000,000 |

Here we close our view of Ohio.

## Art. XXVII.—NEWTON AND HIS DISCOVERIES.

*The life of Sir Isaac Newton, by David Brewster, L. L. D. F. R. S.—Published by Harper and Brothers.*

The hero worship of a nation or age, is a test of its character. There is a sympathy between the Hero and the People. *He* is a superior production of the age;—and the people see in him an exaggerated Image of what *they* are, or what they wish to be. He becomes a model of the excellence, they admire, and an embodied Representative of the spirit, which then prevailed over the Human Mind.

It was thus—that when the Hector and Achilles of Homer, were the Personifications of Grecian Glory—the nations were animated with the same savage spirit,—preserved the same barbarous customs, and worshipped the same Gods of Mount Olympus, mingled with every human passion and stained with every human crime.

*So*, when Christianity had greatly modified, but not destroyed this barbarous spirit,—the Hero of the middle ages is the armed Disciple of Religion. He is the knight of the cross, seeking the deliverance of the Holy Land! He writes Holy names in graceful courtesy upon his shield, offers pious vows in some sacred chapel, casts far behind him the sensual God's of Olympus,—marches to rescue the tombs of prophets, and hopes to offer a healing prayer on the Calvary of Christ! Such was the Hero of Faith! He was the embodied image of the age. Millions followed him to Palestine,—mingling their blood with the sands of Syria! Poets sung him in glorious Melody!—Artists depicted him in colors and in marble;—while the church, grateful for his zeal and his services,—perpetuated his name in the hallowed memory of her saints!

But, in both these cases,—though in periods of time severed by thousands of years,—contrasted by impassable differences in religions,—and modified by vast changes in Art and Civilization,—there was one great feature of Ideal Glory the same. In Heathen and in Christian dispensations,—the Hero was still the warrior. Down to the 16th century,—the warrior was the single Star of the ascendant; the one illustrious object on the canvass of History. All

other objects might be distinguished from one another, but were inferior to that.

It is the most benign effect of the Art of Printing, in diffusing knowledge,—that it caused men to think,—to inquire,—to discriminate,—and to administer Historical Justice, by another and a better standard. It has dethroned the dynasty of blood, as well, as the dynasty of Princes—in so far, as they claim an *exclusive* right to the admiration, or the fealty of mankind. The warrior may still be crowned with laurels or victorious fields; but he is no longer the sole object of Hero worship. He must compete with those who have been the Hero's of Religion,—of Virtue, and of Suffering Humanity. There is Reverence now for whatever is lovely in Excellence—admirable in Genius—or praiseworthy in Conduct;—a statue for whatever is noble, in humility,—as well, as what is glorious in power.

We have come to an age in the Moral History of our race,—when the elements of human character are developed in more just proportions. We are no longer expected to admire a single one at the expense of all the rest. The warrior still shines in his own sphere, but no longer shines alone. The red star of his ascendant Glory still sheds its crimson light--but gradually fades, before these milder, and brighter lights,—which one by one--are beaming from the Firmament.

Newton may be called the Hero of Science—if to achieve the mightiest conquests can constitute a Hero. He was the Representative of that power, which is now the conquering power of the world. Yet, he does not come within the definition of any, whom the world has made its brilliant points,—in the popular measure of Glory. He was *no warrior*,—though conquering the mysteries of Nature. *No Artist*, though developing the means of Art. *No Poet*, though dealing in the noblest subjects of Poetry. *No Prophet*, though illustrating, in the discoveries of Genius, —the sublimest works of God!—He was simply a student, who by labor, became a philosopher,—and by Philosophy, held in reverence, become a conqueror!

Of him it was said;—

> Nature and Natures laws,---lay hid in Night;
> God said,---Let *Newton* be! And all was light.

The death of Galileo was signalized, by the birth of Newton. At exactly one year after the death of Galileo, in the year 1642, Isaac Newton was born in Lincolnshire, England. He was, at his birth, exactly the opposite in appearance of what he became. He was so diminutive in size, that his mother used to say, that he might have been put in a quart cup,—and so very weak, that he was not expected to live from hour to hour! From weakness there was raised up strength! While some mothers rejoice in the full born beauty and promise of those, who became the execration of mankind, this one could scarcely nurse into life the perishing tenement, which contained the immortal spirit of Newton.

In some respects, his birth was most fortunate. He was born in that happy condition, described in Agars prayer,—"Give me neither poverty nor riches." He was born under the care of a mother, who was watchful to preserve life, and most careful to make it useful and honorable. He was born in an age, and a country, in which the way had already been prepared, by others,—for the developement of Science, by some superior genius.

For three years, his mother continued to watch over him, with deep anxiety. At the usual period, he was sent to day schools and at twelve years to a Public Boarding School, at Grantham. In these schools, were taught the common, elementary branches of knowledge.

The question whether there is any *innate* principle, called genius, or whether it is entirely the effect of education, and thought is still a debatable one—and it has not been, at all determined, by the life of Newton. Previous to the age of twelve, when he went to Grantham—there is no proof that he was an uncommon boy. On the contrary, he himself told a relative, that when he first went to Grantham (and he was then old enough to remember the circumstances very well)—he was inattentive to study, and very low in school. The circumstance which occasioned his application, and the rapid developement of his powers, was a singular one. The boy, who was above him in school, on some occasion gave him a kick in the stomach which occasioned pain,—and in the spirit of emulation,—he immediately labored to get above him. From that moment, he became a student, rapidly rising to the head

of the school, and exhibiting the peculiarities of his intellectual character. He began, at once, to make Mechanics his amusement and his play. When other boys were at their games, he made all sorts of machines. He made carriages, and water clocks; astonished the natives, by kites flying at night with illuminated tails; and finally constructed the model of a wind-mill, moved by *Mouse power!* At this time, had any believer in the birth of inmate genius been present, he would have declared, that Newton was a complete illustration of that principle. Yet, no one had seen any such development till he was twelve years old, and unless his mind had become excited, by an adventitious circumstance,—who can say, how much longer it would have remained dormant?

Cicero, while he attributed almost all knowledge, and power to human study, declared that the Poet was *born* a poet. And Pope, who wrote well, at eight years of age, declared,—

"I lisped in numbers for the numbers came."

But if, this be true of poets, it may be doubted, whether it is true of any other class of superior men. The case of Newton, however, may be admitted to prove this,—that independent of the body, or of outward circumstances, some men may be born with vastly stronger minds, than others, and this strength of intellect stands ready to seize upon any particular path or ladder,—guidance, which may direct its ascending progress. Such was the case with Newton. What gave his inquiring mind a peculiar bent towards Mechanics, we shall never know; but if a *kick* could convert him from an idle boy to an ambitious student, we can easily imagine that some common machine, or passing show, should turn his thoughts upon the principles of Machinery, or the causes of natural phenomena. It is enough, that his strong mind seized upon the materials of investigation, as flame upon the fuel, and kindled and burned in the ardor of pursuit.

It is even said, that Newton wrote verses,—and the copy of some written upon an old painting are preserved, as his. But if he did, it was nothing uncommon, and we may well rejoice, that the poetry of words was exchanged for the more glorious poetry of thought.

The mother of Newton had a small farm near Grantham,

and had but a narrow income. She thought her son might be made useful in rural pursuits,—and at fifteen years of age, he was recalled from school, with a view to farming, and country business. But, however great was Newton's Genius in other things, it was soon demonstrated he had none for *farming*. Being sent to a neighboring village to sell produce—he left the servant, horses, and produce to take care of themselves—while he betook himself to the garret of an apothecary to read old books, or work out problems.

His mother soon discovered, that it was as little advantage to her farm, as it was to the genius of her son, that he should pursue any longer the Agricultural Art. By the advice of her brother, a clergyman, she sent Isaac to Trinity College, Cambridge. He was in his 18th year, 1660, when he entered the bosom of his Alma Mater, whose illustrious name, he was to make more illustrious by the splendor of his own renown. In the same year entered another man, who was to become his adviser and friend, who was admirably fitted to perform that faithful part,—himself eminent in learning, and eloquent, as a Divine.

This was Barrow, that year appointed Professor of Greek.

The story of Newton in College is very brief. His most remarkable intellectual trait seems to have been, as it was when a boy making machines—the spirit of inquiry—investigation—searching into results and causes. His attention was directed specially to Mathematics, by a circumstance as apparently accidental as that which excited him at school. He had read of Astrology and wished to know whether its predictions could be true. To ascertain this, he erected some Mathematical figures according to the pretended science, which he soon found to be no science. He rapidly mastered the principal Mathematical writers of the day—looking upon the Geometry of Euclid as self-evident truth—passing quickly over the modern discoveries, and acquiring more than his tutors knew. Notwithstanding this, he was not deemed in College to be very superior in learning, and in examination for a fellowship, he and another individual were adjudged equal. He took his first degree in 1665, five years after his entry.

In this time there is a single fact to be noted above others.

In his memorandum of expenses for 1664, three years after he entered College, is an item of money, *for the purchase of a Glass Prism.* Science was deeply indebted to that *Prism*, and we shall see how.

Having taken the ordinary degrees in College, he remained within the walls of Trinity, as a Fellow. There he continued for more than thirty-five years, in the secluded life of a Student; but sending out from that single spot, the radiations of a light which burned upon the horizon of the world. His friend Dr. Barrow, who had been appointed Professor of Mathematics, in 1669, the 27th year of Newton, resigned it in his favor. This is the era of the commencement of his great discoveries; and we shall now contemplate his mind, picking out the facts gathered by preceding philosophers, elaborating them in the crucible of investigation, and bringing out those sublime and beautiful results, which still constitute the noblest triumph of human genius. In about four or five years, at and preceding that, in which he occupied the chair of Mathematics, he conceived the germs of all his great ideas; but, as they were yet unknown and unimagined by the world, he had to take long years, the greatest part of a long life to work out, prove, make authentic, and publish them to the world. It was now he begun this great, but laborious, this charming, but solitary work. Just before this another Mathematician—*Gregory*—had written a work, showing that by grinding glasses, into the shape of Elliptical or Parabolic curves, the rays of light might by refraction, be converged to a focus. This is now a common phenomenon, known to every body. Galileo had invented the refracting telescope upon this principle. Such were the principal steps taken previous to Newton, and which probably directed his mind to the subject of light. In 1666 we find him grinding lenses as if he were a Mechanic in glass. The mind of the philosophers of the age was turned to light, and Newton went to work to solve practically the difficulties which no theory had yet solved. It was thus that we find him in his optical workshop. He soon found that there were difficulties independent of the shape of the glass; that the lens and the focus, in spite of any grinding was imperfect. This led him to suspect that there was something in the nature of light itself, passing

through such glasses, which caused these imperfections. What was it? This was the hint and the problem. It is difficult to show without an actual experiment what was done, but we may form a clear idea of the result. It was known that light was *refracted*. This simply means that light, a ray of light, in passing from one medium to another; such as from air to glass, or air to water, is *bent* out of its course in entering the new medium. Its *line of direction is changed*. The angle of its direction is different in different media. Newton reflecting upon this fact, now took the glass prism, with which we exhibit colors and went to work to experiment upon that. He made a little hole in a window shutter to let in the light. He then placed a glass prism just behind it, and at such a distance that the light passing through fell upon the opposite wall. There to his great astonishment he found that the *spectrum* or figure of the light let in was five times as large as the original hole! Now this very common phenomenon was new to him. He thought that the light which passed through this glass prism, though *refracted*, bent out of its course, would come out in the same shape; but it did not. It came out much elongated, and in a different shape. Now the problem was, what was the reason? What were the laws of light which produced this appearance? Here we have an illustration of that peculiar investigation, by which he made all his conquests in philosophy. It was rigid experiment. In this instance he exhausted errors, for the true cause was the last one of several he thought of as probable. The prismatic colors were known before, but no one had attempted an analysis. He first supposed that some irregularity in the glass might have caused the elongation of the figure or *spectrum;* but he tried different thicknesses and different prisms, and found they all produced the same effect. He next thought that it might proceed from the peculiar angle of incidence or direction of the sun's rays on the glass; but he tried numerous experiments on that idea, and found no difference. He next conceived that the rays refracted in passing through the glass might have received a curvilinear direction and come out curve lines separating as they went, which would prevent a longer image. This too he proved to be a false theory. The rays proceeding through the prism were *straight.*

He had now *exhausted errors* and arrived at the truth by a very simple and natural process. The *facts* before him were these. The light had passed through a small hole in the window shutter as *white* light on a glass prism. It passed through the prism and came out on the opposite wall in seven different colors, in a different shape, and of much larger size. These were the *facts*. He had failed in various suppositions of the cause. He now took a common board and cut a little hole in it and placed it near the prism, so that he could receive one of these colored rays through that hole. Then he made another board and hole farther off in the same way, and then he passed this colored ray through another prism on to the wall. The effect of passing this colored ray through these holes by itself was to get its direction, and the effect of passing it through another prism was to get its *refraction*. When this was done the problem was solved. He turned the prism so as to pass all the colored rays in succession through, and measured their angles. The result was that each color was refracted in a different degree from the rest, though all were in straight lines. The *red* rays were less refracted than the *orange*, the orange less than the *yellow*, and so on to the *violet*, which was refracted most of all. The principle is called the *refrangibility of light*, or its capacity to be decomposed, or broken up into rays of different degrees of refraction. Newton then announced this principle—the most brilliant discovery which had ever been made in the nature of light—in these words, *that light was not homogeneous, but consisted of rays, some of which were more refrangible than others.*

But Newton had another problem to complete this part of the science of light, but a much easier one. If light could be *decomposed*, it could also be *re-composed*. He assumed at once, that light was a compound of all the different colors in the spectrum. He determined by experiment, that the rays of each color were simple and original. He found that whether refracted through lenses, or reflected from mirrors, these colored rays never underwent any further change. The degree of any refrangibility for each color remained always the same. He then took another prism and received the colors caused by the first upon that, which by the opposite refraction transmitted them in a straight line, so that

the image on the wall was the same colorless, *white* light which came from the sun. The problem of the proximate, or elementary nature of light was now solved. Newton had now decomposed light into colors, and determined the law of its decomposition and had recomposed colors into light, determining also that light was not homogeneous, but composed of other elements. It followed also that black was no color, but simply the *absence* of color.

The terms in which Newton announced this discovery to the Royal Society were admirably adapted to express the idea. He told them he should soon communicate to them the "*oddest* if not the most considerable *detection* which had hitherto been made in the operations of nature." It was actually a *detection* of nature in the mysteries of her work: a detection which was as intellectually beautiful as those vivid and various colors, which charm the senses and delight the soul.

The discovery of the *refrangibility* of light explained many other phenomena, but none more beautiful or interesting than that of the rainbow. In a recent elaborate treatise upon optics, we saw it stated that the rainbow "is never seen unless when the sun shines and the rain is falling." But in these United States there is a spot where the rainbow is visible when *neither* the sun is shining or the rain falling. This spot is the Falls of Niagara, when moonlight shines upon its spray. There again this Heaven-sent messenger appears even at midnight hour, to reaffirm its benign message, and apparently to show that mercy shall live, even when the sun shall die!

The *principle*, however, upon which it is formed, is precisely the same upon the spray of Niagara, as it is upon the rain drops of the retreating storm. To form the colors of the curve, in the manner and shape in which they are formed, it is only necessary that light should shine upon falling globules, at a certain angle. When the sun or light is in a certain direction, and the rays fall without obstruction upon the rain—the bow is produced. The ray of light falls upon the globule of water in one direction, is reflected, and comes out in another direction. In going in and coming out it has two *refractions* or changes of directions. In passing out, the original ray is separated and refracted at different

angles, so that the colors become visible. This is the *refrangible* quality of light discovered by Newton, that it is not homogeneous, but consists of rays more or less refrangible; which being thus decomposed exhibit the colors. The rainbow is now, therefore, not only an evidence of recorded promise, but the most perfect practical demonstration of the laws of light; an eternal witness to the Mercy of Heaven, and an eternal monument to the genius of Science.

The discovery of the refrangibility of light, though the most important, was only one among the many discoveries, made by him in the science of Optics. His introduction to the Royal Society of England was due to a very different and inferior invention. This was the construction of the reflecting telescope. The mind of scientific Europe was just then very much turned upon telescopes. It was just after the time of Galileo, who had been very much distinguished. It was by experimenting upon lenses, that Newton was led in pursuit of the laws of light. After he had discovered the decomposition of light, he read a work by Gregory, an eminent Mathematician, in which the reflecting telescope was suggested. Gregory had attempted to make one, but failed. Newton went to work and made one on a different plan, and constructed it with his own hands. This instrument is still preserved in the Library of the Royal Society. This was the *first* reflecting telescope ever directed to the Heavens. It was a small, and not important instrument in itself; but when we consider it as the *first*, in a series of instruments by which the most gigantic discoveries among the heavenly bodies were made, it is no longer strange that it was received with surprise and interest by the men of science. Newton himself left the reflecting telescope where he began it; but expressed his conviction that nothing was necessary but good workmanship to perfect this instrument, and commended it to the curious in figuring glasses. Just one hundred years after that, Dr. Herschel constructed a five foot Newtonian reflector. He went on with his experiments till he made that enormous instrument forty feet long, with a spectrum four feet in diameter. It was then that the Heavens assumed a new face. The vast blue deep of the firmament came booming up, with new

orbs from other worlds, as if to rejoice with man in the new development of his powers, as they once had done in the morning of creation! A new planet—new nebula—double stars—and thousands of shining attendants came out to make and attend the triumphs of the telescope!

It was in 1672, when Newton was in his 30th year, that his little reflecting telescope became known to the Royal Society. It attracted great attention—was examined by the King—gave him a wide reputation. But it will be observed this was a small thing compared with others he had done. He had already made his great discoveries in light, but they were not made public; and he had also, as we shall see, formed the germ of the theory of gravitation. Immediately after the reception of his telescope by the Royal Society—the Bishop of Sarum, who had been a Professor of Astronomy, proposed him as a Fellow of that learned body—then, and for a century afterwards—the most learned in Europe. He was elected—and in return did more to adorn and distinguish it, than any man it ever contained.

Other—but minor discoveries were made, by Newton in the laws of light—so that, that branch of knowledge stepped into the rank of an independent science. In looking recently into a treatise upon Optics; it seemed to me, that if all that Newton had discovered, and all that was the necessary consequence of his discoveries had been taken out; less than half, which is valuable, would remain.

We may here remark, that the genius of Newton seems, in one respect, to be very much misapprehended. Unless we greatly mistake, the popular idea of Newton is, that he was a man of *abstractions*—that he made his discoveries by *abstract* reasoning; that he had little *common* knowledge, that he was a philosopher in that *fanciful* sense which makes philosophy something in opposition to common sense. If any person has formed such idea, it is a great mistake. More than a mistake: it is a *wrong*, not merely to Newton, but to all the great men who have been true philosophers. There is *no* true philosophy, independently of the world of *facts*, and of *real* things, and of *positive* knowledge. There is no demonstrable discovery to be gleaned from the abstractions of Logic, or revealed from the visions of fancy. There must be observation—experiment—examination—analysis—deduction—applied to the real facts, the positive things

and beings of the actual world. So it was with Newton, the character of his genius in relation to the things he dealt with was from the beginning eminently practical. He was an observer—an experimentalist—an analyst—a mechanic and a laborer in the materials of practical philosophy in all his career. We find him watching every phenomenon, and drawing no conclusions till he had established his facts. We find him grinding lenses—experimenting on prisms—working out practical problems in light—and at last constructing a telescope with his own hands. Now, the man who can begin and make a reflecting telescope himself, is a good practical mechanic in those materials. What Newton was in these things, he was in every thing. He was as practical in business as in philosophy. His was that solid strength derived from clear, bright, undisturbed faculties of mind—deluded by no fallacy of logic, or vision of fancy—adjusted accurately in all their parts, and developed in full proportions. Such a mind is always observing facts, and realizing truth.

We have now come to the discovery of the laws of gravitation applied to the theory of the universe. This was less original, than his discoveries in light; but it struck the world with more surprise, and was attended with more reputation, on account of the magnitude and sublimity of the object. Something of the magnificient beauty in the structure of the Heaven's was transferred to him, who had led the mind in its vast journey through unknown worlds in this great excursion, without the bounds of our earth, into other, and then invisible orbs. Newton had been preceded by other travellers, who had cleared the way. Tycho Brahe, Galileo, Kepler and a glorious host had preceded him. It has been well said, that there had been a conspiracy of great minds to advance the science of Astronomy, and Newton was the leader of their mighty phalanx—the director of their combined genius—the General who won the victory and therefore wears its laurels.

We must premise here, that Newton did not discover the *fact* of gravitation—that bodies fall, or are attracted to one another. This is a fact of common observation. Nor did Newton *invent* the idea of an attractive power of some kind keeping the Planets in their Orbits. This idea had been obscurely suggested by Kepler, Borelli, and others;

and had been very distinctly stated by Dr. Hooke. He did what the inventor of the Steamboat did: when taking the fact that there was steam, and the idea already suggested that it might be made available for loco-motion, performed the achievment of converting this known agent into the vast motive power of the commercial world.

We are apparently indebted to the great Plague which visited England in 1666, for the discoveries of Newton, in the laws of gravitation. When it visited Cambridge, *he* prudently retired to his native village—Woolsthorpe, in Lincolnshire. He was then in the twenty-fourth year of his age—six years before he was admitted to the Royal Society. Away from the books, instruments, and facilities which attended him at Cambridge, he had time for meditation. He was sitting alone in the garden of Woolsthorpe, reflecting on the wonderful power which causes all bodies to fall to the earth: when in the train of his reflections it occurred to him that this power seemed not to be sensibly diminished on the tops of the highest mountains, from what it was on the common surface of the earth. If, then, this power, or attraction, did not materially diminish in some thousands of feet from the earth, why might it not extend to the moon? If, to the moon, why not to the planets? If, to the planets, why not to all bodies? And if to all, why is it not the attractive power, which restrained their impulsive forces, and moved them in harmonious order, through the Universe of Being? Such was the train of reflections which led Isaac Newton in the garden of Woolsthorpe, to discover the laws of gravitation and apply them to the theory of the material world, and the movements of Heavenly bodies.

But, to form these ideas was one thing, and to elaborate them—to assemble multitudes of facts—compare them, and from the whole to deduce a long chain of connected demonstrations was quite another thing. The one might be the brilliant thoughts of a few felicitous hours; but the other was the continuous, laborious, and ingenious process of concentrated mind through long years of systematic work.

So, too, when that work is accomplished, we seize and appropriate to our own minds the grand results, as if they were the simplest and most obvious truths. They have become the common facts of common knowledge to millions.

We see not, and except for discipline, we need not the intricate process by which these magnificent truths were revealed from the depths of the human mind. We take them, and we glory in them; as some gay lady rejoices in the beautiful Pearl which adorns her head; but which, except for the labor and hazard of the bold diver; would *yet* have been in—

"The dark unfathomed caves of ocean"

buried. It is labor, disciplined labor, which gives to the gem of genius its stamp and value; brilliant thoughts are not the exclusive gift of the great or wise. Millions have received the visitings of inventive fancy, bright as the roseate dreams of the poet, or, as inviting as the pictured tabernacles of philosophy; but for the want of disciplined education, or of persistent labor, these thoughts have fled, like the visions of the night.

The Poet, who has so happily described the Castle of Indolence has thus noted these unproductive reveries:

"Oft as he traversed the cerulean field,
And marked the clouds that drove before the wind,
Ten thousand glorious systems would he build,
Ten thousand great ideas filled his mind;
But with the clouds they fled, and left no trace behind."

*Such* has been the case with multitudes; but, such was not the case with Newton. He had all the strength and all the discipline, and all the systematized and presistent labor which could seize that vision of creation, fix it in his own mind, and transfer it in immortal colors to the mind of an intelligent world.

In the garden of Woolsthorpe, his thoughts, like ministering spirits; gathered around him the whole array of that glorious system, which it took the years of his life to demonstrate. The problem which he required himself to solve first, and the mode of its solution may now be easily understood. It was this: knowing what the motions of the moon were, and knowing what the law of gravitation was on the surface—*to know* whether this law, as observed on the surface of the earth would, if applied to the moon produce that effect: in other words, "to identify the law of falling bodies at the earth's surface, with that which guided the moon in her orbit." Now, there was in the first place, to be got, two facts; first: what *is* the law of gravitation

at the surface of the earth? and next, how much is the moon really *bent* towards the earth, in a given time? If these are precisely *identical*, then the law of gravitation is the law of the moon, and gravitation is that power which keeps the moon in its orbit towards the earth. Now, he knew what was the law of gravitation on the surface of the earth; for by letting a body fall through a considerable distance, and arranging it so that the second of time could be noted, it was ascertained that a body fell through exactly 16 feet in one second. The amount which the moon fell, or in other words the amount which it was bent towards the earth from the straight line in which it would have moved, if there had been only one impelling force, was also known by observation on the moon's places. Now Newton had to take the law of gravitation, as it was on the earth, which would be half the diameter of the earth, from the earth's centre; and calculate what it would be at the moon, or 240,000 miles off. In doing this, the diameter of the earth was an essential element. But, it happened that the diameter of the earth was not then exactly known. It was measured as the diameter of a circle may be from the length of the circumference. This again was calculated from the length of a *degree* measured on the ground. Now, the length of a degree of latitude had been assumed at 60 miles, which was not true. Newton calculated the diameter of the earth from a degree of 60 miles. This made the diameter of the earth too small, and when he carried the law of gravitation, thus calculated on the earth's surface to the moon, and compared it with the actual attraction of the moon, he found that the real attraction varied *one-sixth* from what it would be, if that attraction had been governed by that law of gravitation, as it existed on the earth's surface. Now, to have come as near as this would have been deemed, by common minds, a triumph. In a distance of 240,000 miles, and in the first calculation, it was enough to satisfy the intellect that the theory was true. Not so with Newton. He dealt in no conjectures, and was convinced of nothing short of Mathematical exactitude. He laid aside his calculations. But from time to time resumed them, especially in the theory of curves, in which the Planets moved. It was not till 1679 that the true length of a degree of latitude was ascertained by Picard, of France;

and it was not till three years after that, in a conversation at a meeting of the Royal Society, that Newton became acquainted with that fact. "Observe the difference, which less than two hundred years had made in the rapidity of diffusing intelligence. Newspapers had just then commenced, and were very rare, and not at all enterprizing. A fact in Science, discovered in France, would be years in making its way over the continent of Europe; but, such is now the power of loco-motion, and the number and diligence of newspapers, that such a fact would, in less than three months, pass through every civilized nation, and be heard by every scientific man!

Newton noted this fact, and instantly resumed his calculation, measuring the diameter of the earth, from the true degree. He saw the result, and for once became so excited that he could not trace the figures. A friend's hand pursued the calculation. The hour was come. The law of attraction which governed the moon was proved *identical* with the law of gravitation on the earth! At that sublime hour, Newton stood where no mortal had ever stood; and surveyed that celestial machinery upon which none but immortal eyes had ever looked!

The Poet describes the traveller after weary journeys and toilsome clambering up the crooked and craggy path to have at last stood on some lofty mountain summit—

> "And placed on high above the storms career
> Looked downward where an hundred realms appear;
> Lakes, forests, cities, plains, extending wide."

But, what was such a scene to the vision of Newton? He saw the earth fading away from him, like a little ball, which he had thrown from his hands! He mounts on the chariot of science, careering through the halls of the skies! He visits the moon! He touches the beautiful Venus! He stands on the dim disc of distant Saturn! He gazes with unblenched eyes upon the burning sun! Sees bright orbs wandering by; hears the solemn music of the stars, and returns from his journey to relate this vision in the ears of men.

He had linked world to world beyond the verge of the visible creation; for he had grasped the power which

> "Whirls them through the void immense!"

Often does the imagination love to carry the soul out of itself, to seek some spot which straining eyeballs cannot reach—some green nook in the hidden creation, and bring back some fruit from the world unseen. But it journeys in vain. It returns with tired wing from its flight over the wide waste of waters, and with no gratified vision of discovered orbs. But, now the spirit of Newton had gone out on this journey, and returns, *not* in vain. It comes with exultant flight. It comes like the joyful dove to the ark, with green leaves gathered from the midst of the mighty deep!

It was in 1682 that Newton finished the problem of gravitation; just sixteen years after that time, when at Woolsthorpe, the idea of that problem was suggested to his mind. There was yet another great work to do. This was to trace the series of concentric demonstrations, which should prove, in all coming time, the theory of planetary motions established by the law of gravitation. This was done in the most celebrated Mathematical work extant, *The Principia*, or Mathematical principles of Natural Philosophy. This work was finished two years after, and formed the crowning labor of his great discoveries.

One other discovery must be mentioned. This is the *method of fluxions*, or, as it is now called, the *calculus*. This constitutes almost a separate science, and is the highest department of Mathematics. It is remarkable that the first idea of the calculus was suggested to him in the same year with the theory of gravitation; and that before Newton had reached his twenty-fifth year he had received all his great ideas, and performed a series of achievements uneqalled by any in the History of Science.

The discovery of fluxions gave rise to one of the most remarkable controversies in literature. It happened that Newton had used his method of fluxions many years before he published them. In the meanwhile, Leibnitz published a similar work, and charged Newton with deriving the idea from him. This was directly contrary to the character of Newton, and was one of the very few occasions when he became excited. An extensive correspondence took place among scientific men in relation to this controversy. The result was an unanimous verdict, that Newton invented fluxions, at least *ten years* before Leibnitz. Newton was

the *first* inventor, Leibnitz the *second*. Whether Leibnitz derived any thing from Newton or not, is uncertain.

This seems to be one of those cases, in which there have been *independent* inventors; and in which, of course, the friends of each claim the invention. It is an illustration of the fact, that for all great discoveries the way has been gradually prepared, step by step, till there comes a time when the discovery *must* be made; when the bright idea must occur to some distinguished mortal. Happy—thrice happy is he, upon whom heaven has cast, with a Prophet's power, this mantle of genius!

Newton, as we have seen, conceived the germs of all his great ideas in the laws of light, the theory of gravitation and the doctrine of fluxions before he was twenty-five years of age, and at about the period of the Great Plague in England. But the mere ideality of these discoveries was the least part of his intellectual labors. They were worth little to himself, or to the world, till they were elaborated and refined, or as the jewel incrusted in its native ore, must be chiseled, and shaped, and polished into the form and brilliancy of beauty. The facts of science must be reduced to *system* and *demonstrated* before the world will either understand or value them. This was the work of his middle life, hard work in which his mind seemed abstracted from all common affairs, and to be employed, as it really was, in some far off and invisible sphere of his own. For thirty years did he pursue the elaboration of his great ideas within the walls of Trinity College, till his theory of Optics, his principles of Natural Philosophy, and his doctrines of fluxions were so perfected, that little has been added from his day to this. When he was done, they were done. He left his works to the world, a blessed gift to mankind, a noble monument to himself!

It has been said, that there is no great man who is not capable of Rest. The mere nervous irritability of genius, or the constant activity of restless ambition, are not greatness. The great mind is capable of rest. It will stop sometimes, and remain self-poised, independent of all outward things, and calmly rest; as we have seen the bird, stop the flutter of his wings, midway in the Heavens, and silently floating along seem wrapt in the beauty, and bathed in the pure air of that lovely scene.

Newton was a great man, and when he had solved these mighty problems, and arrived at past middle life, he was contented to turn his thoughts more upon other occupations, and mingle more in the affairs of mankind.

And now, what was the genius of Newton? And what did he think of himself?

The best definition of genius is—not that it is a talent for any particular thing, so much as great Strength of mind, fully developed in all its faculties. Such was Newton's. He began life scarcely able to breathe. He was nursed into life from the borders of death. He was sown in weakness, and raised in strength. There was a germ of power, and like the little seed of some magnificent oak, it was nourished—cultivated—developed—invigorated in the soil—fed by the rains, and warmed in the sunlight of heaven, till it towered above surrounding plants, mighty in strength and glorious in beauty!

Had Newton lived fifty years *sooner* or *later*, he would not have made his discoveries. Had he lived fifty years sooner, the way would not have been prepared for him. Had he lived fifty years later, they would have been made by others. His first great gift was, that he came *when* he did. His next was, that he had a mother who neglected no duty and gave him all the aid and education, which she or the country could afford. His last was, that he had a mind of great strength, and perfect balance which moved equally along—lost no opportunities—idled away no time—used every thing and abused nothing. His was the ten talents which being put to usury brought other ten.

A great mind never mistakes its own place. It neither underrates, nor overrates itself. When the discoveries of Newton were assailed, he defended them with zeal and power, as part of his God-given rights. But when he looked at himself—at his own little point in the creation of God—he was possessed with the very spirit of humility. His great knowledge enabled him to see clearer than others, the vast profound of infinite wisdom developed yet unknown in the laws of the universe. Nothing can exceed the beauty of that memorable sentiment, uttered a short time before his death. "I do not know what I may appear to the world; but to myself I seem to have been only like a boy playing on the seashore, and diverting myself, in now and then finding a

smoother pebble, or a prettier shell than ordinary, while the great ocean of truth lay all undiscovered before me." Dr. Brewster well remarks on this—"what a lesson to the vanity of those who have never found the smoother pebble, or the prettier shell!"

*Exclusively*, almost, devoted to science, as Newton was; he nevertheless became distinguished even in legislation. Among other illegal proceedings of James II., the last Prince of the House of Stuart, he sent a Mandamus to the University of Cambridge to make a Benedictine monk, Master of Arts—and to enjoy the privileges of the degree, without taking the oath of Supremacy, which was required by the laws of England. The Fellows of the University looked upon this as a direct violation of their rights, and the corporation unanimously refused to obey the order; and did it with a firmness which irritated the Court and brought on a controversy. The Vice Chancellor was summoned before the Ecclesiastical Tribunals to answer for contempt. Newton was one of the two delegates from the University to defend their suit. This he did so successfully, that the King was obliged to abandon his design. In consequence of his part in this matter, he was, in 1688, elected a member of Parliament from Cambridge. He served through the whole of the Convention Parliament, which settled the throne upon William and Mary, and secured the reversion to them. It was this Parliament, which declared those fundamental principles of political right, which have remained the great features of the British Constitution ever since.

Up to this date, the British Government had conferred no favor upon its most illustrious citizen. The world had been startled by the magnitude of his discoveries, and the learned every where stood in admiration of his powers. But the effeminate pleasures of Charles, and the bigotry of James, had neither time, nor inclination to reward the works of genius. Newton was yet a fellow of Trinity College, with a narrow income. The Revolution in Government produced another in the men who administered it. The star of Newton's happy fortune was again in the ascendant. It was a part of what would be called his good luck to have made available friends: those who understood his character, who entered into the spirit of his pursuits, and who estimated rightly the grandeur of his works.

Among his first friends at Cambridge was Charles Montague, afterwards one of the most celebrated men in Europe. Younger than Newton by many years, he yet delighted in the pursuits of Philosophy, and the society of his learned friend. They sat together in the Convention Parliament. From thence Newton returned the same quiet student of science; while Montague shot off a splendid meteor in the world of politics, becoming rapidly Chancellor of the Exchequer, Prime Minister of England, and Earl of Halifax.

Among the earliest acts of this brilliant Statesman was the appointment of Newton as Warden of the Mint: the chief Executive office in the department of the Mint. This was a turning point in Newton's life. He lived thirty-two years after that epoch; but from that hour he was a man of business, as well as a man of science. No man of business ever excelled him either in accuracy or success. It was a plan of Montague, in which he needed the assistance of science to recoin the money of the Kingdom. The coin had became debased and spurious. He resolved to reform it by re-coinage. This was now the labor of Newton, in spite of all predictions and all advice to the contrary, the work was successfully accomplished to the credit of Montague and the honor of Newton. He was now promoted to be Master of the Mint, in which office he remained till his death. This was an office of large salary, but Newton was tempted to no excess by property. He was an economist, but one who was both just and generous. This part of his character was as remarkable as all the rest. It was the nicely balanced judgment, and accurate perception of the way to accumulate property on the one hand, and the way to distribute it liberally on the other. He had given away two estates before his death; yet he left to his heirs $160,000 in personal property, besides a landed estate in his native country. Such was the great Philosopher as a man of business; and if he were to be judged by his character in that respect, it would be hard to find his equal,

But there was another particular in which he was equally superior to most of those who have been called Philosophers. He was a man of religion; not merely a disciple of the general truth of Revelation; but an humble student of the Holy Word. The religious character of Newton was as

peculiar and as brilliant as his splendid achievements in science. His study of biblical knowledge was commenced early, and was constant and profound during the whole of his life. He wrote an elaborate work on the prophecy of Daniel, and the Apocalypse of St. John. In four able letters in answer to certain queries of Dr. Bentley, he said, that one object in writing his great work, the *Principia*, was, that in demonstrating the sublime laws of creation, he might show them to be the work of a superior intelligence, and thus aid in extending an enlightened belief in God and Providence.

This part of his character was so strongly contrasted with that of the Philosophers of France, that some of those gentlemen of whom La Place was one, have framed a theory that Newton, at a certain period of his life, received a shock to his mind. They were kind enough, however, to fix the date of this supposed hallucination, and thus furnished the means of a complete and triumphant refutation of that charge, by Sir David Brewster. The truth is, Newton had a *whole* mind, and not a half one. When he walked by the light of nature, he did not discard that of revelation. He combined them both till they were at once a lamp to his feet and a glory to his head. He felt an impulse to investigate the sacred mysteries, and he obeyed it. By thus uniting Philosophy and Religion, said his biographer, he dissolved the league which genius had formed with skepticism, and added to the cloud of witnesses, the brightest name of ancient or of modern times.

The close of Newton's life was passed under the domestic care of his beautiful and accomplished niece, Mrs. Conduit. At eighty years of age, in conversation with Mr. Conduit, he mentioned a most extraordinary theory. He conjectured that there was a sort of revolution in the Heavenly bodies themselves; that the light, or vapor emitted from the sun attracted other matter from other bodies, and at length formed a secondary Planet; that increasing it became larger; and that finally it became a comet; that after certain revolutions coming nearer and nearer the sun, the vapor parts were condensed, and the comet became fit to recruit the sun as wood does the fire; that from observations made on the comet of 1680, that body would probably, after some revolutions more, drop into the sun, and

that when it did, the earth would be burned and no animal could live upon it. He was asked why he had not published his theory? He replied, "I deal not in conjectures." He had, however, given a hint of this theory in a note to the *Principia*.

The comet of 1680, has periods of 574 years. It appeared in the time of Justinian, 1106, and in 1680. Its next appearance will be in 2254, and hundreds of years must elapse before this sublime theory of destruction to this earth can be either proved or refuted.

The period of Newton himself, in mortal form, was now completed.

In the 85th year of his age, sinking gradually under the decay of nature, calm in mind, and peaceful with the world, he silently glided away! England's greatest and noblest men followed his body to the tomb! Dust to dust, with the ashes of Kings and Heroes laid—renowned Westminister received among its glorious dead, its most illustrious Great!

In the lifetime of Newton was presented a memorable contrast between the Warrior and the Student. From his birth to his death, there were commotions and revolutions, whose effects we feel and will be felt, while this nation and its influence shall endure. There were discoveries in nature and developments in mind, which have never been surpassed, whose reflected glory still fills the horizon of our view, and shines in every volume of human knowledge.

The Warrior had filled Europe with alarms. Cromwell had run his wonderful career. Louis the Great had swept through the nations with the terror of his name. William of Orange had figured on many a bloody field. The deep drum-beat rolled along the castled Rhine, and was heard upon the distant Danube. Louis and Turenne, Eugene, Villars, and Marlborough, passed along in their bright array, with the clangor of arms and the lustre of victory. The warrior had performed his part. He had renown enough to fill the measure of any ambition—is wrapt in his crimsoned standard—is carried to the grave with martial music—buried under monumental marbles, and is sung in heroic verse! But there comes a time when man asks what did he accomplish? What was the result? Not a Govern ment was overthrown, not a land mark of nations was re-

moved, not a boundary was changed. The overflowing arms of nations returned within their banks, and like the tide retreating from the sands left no trace of their march.

Newton came, the Hero of Science. His battle fields were within himself. A solitary Student within the recluse walls of Trinity College, he commenced his conflict with FAITH in one hand, and with LABOR in the other. He marched from victory to victory; from conquest to conquest; from discovery to discovery; till he extended the boundaries of human knowledge beyond the dreams of Philosophy, and beyond the imagination of man. He made the light his servitor. He called the planets down. He passed the limits of the earth.

> "He passed the flaming bounds of space and time,"
> He stood "where angels tremble while they gaze."

The student returned from his conquests, with no drop of blood upon his hands, and awe-inspired with the glory of other worlds, seems to say—

> Hail! holy light!
> Before the sun,
> Before the Heaven's thou wert, and at the voice
> Of God, as with a mantle did'st invest,
> The rising world of waters dark, and deep,
> Won from the void and formless infinite,—
> *Thee I revisit* now with bolder wing.

# SCIENTIFIC SUMMARY.

DANIEL VAUGHAN, a schoolmaster of Kentucky, has published an account of some chemical experiments he has made, in reference to the influence of Heat, Light, and Electricity, on VEGETATION. The chief experiment and fundamental discovery of Mr. Vaughan is, *that carbonic acid may be decomposed by means of the evaporation of water at a low temperature.* This he proves by analogies drawn from nature, and by a very simple experiment. By impregnating water with carbonic acid, and allowing it to stand in the open air and sunlight, he finds that the carbonic acid in the water is gradually decomposed, and carbon, in the form of dark powder, is deposited on the bottom of the vessel. The carbonic acid, for this experiment, may be obtained by pouring hydrochloric acid on common limestone, or marble, which will yield the carbonic acid combined with the lime; or, it may be obtained from any fermenting substance—as yeast, sugar dissolved in water, sweetmeats, apples, grape juice, &c. The fermenting substance should be placed in a small vessel, and that set in a larger vessel of water; then, by inserting a bowl, or vessel, of intermediate size, over the former, the gas that is evolved will be confined and compelled to impregnate the water, before it escapes. In the course of a few days, the carbonic acid which has entered the water will be freely decomposed, except when it is sheltered from the light, and the carbon will be precipitated on the bottom of the vessel.

This decomposition is supposed to be occasioned by electricity. The water is a negative, and the vapor a positive electric; the

carbon goes to the negative pole, or water, and the oxygen goes to the positive pole, or vapor. Thus the water becomes surcharged with carbon, and precipitates it on the bottom of the vessel.

This simple experiment overthrows many prevalent notions. For instance, the purity of the atmosphere has been thought dependent upon vegetative action, which consumed the carbonic acid given off by respiration, fires, volcanoes, vegetable decay, putrifaction, &c.; but according to this experiment, the purification of the atmosphere is going on constantly, independent of vegetation. Whenever water is evaporated, carbonic acid is decomposed. This experiment teaches, also, that the earth owes much of its fertility to evaporation. Where there is a lack of moisture, there is comparative sterility. Where moisture is abundant, carbon is deposited, and in turn a deep bed of vegetable mould is formed, as the prairies of the west. Where there is excessive evaporation, as in the marshes, the carbon is deposited in an insoluble form, and beds of peat or bituminous coal are formed. Thus the theory of the vegetable origin of coal, is very much shaken, if not completely overthrown.

The difficulty here suggested, that the bottom of the great bodies of water ought, according to this theory, to be covered with a deep bed of vegetable mould, peat, or coal, is removed by the fact that pressure promotes the combination of carbon with oxygen, and thus the carbonaceous materials which fall to the bottom of the ocean, become reconverted into carbonic acid; and even the vegetable mould brought down by rivers, undergoes the same process at the bottom of the ocean, and is ultimately restored to the atmosphere.

Meteorological Statistics.—We are indebted, says the Scientific American, to Mr. John E. Randal, of Wayne Co., N. Y., for a valuable table in manuscript of his Meteorological Observations in that part of the country for 18 years, viz. from 1831 to 1849. There is a record of the amount of rain and snow which fell every month during that period, showing that Mr. Randal is not only a patient but an enthusiastic and careful observer. We should like to publish the whole table, but owing to the size of our columns, we could not do it justice; but we publish the fol-

lowing yearly fall of snow and rain, which will be of much interest to many:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1831. | Snow | 11 | feet | 6 | inches. | Rain | 1 | foot | 10 | inches. |
| 1832. | " | 10 | " | 4 | " | " | 1 | " | 0 | " |
| 1833. | " | 9 | " | 8 | " | " | 1 | " | 8 | " |
| 1834. | " | 5 | " | 10 | " | " | 2 | " | 0 | " |
| 1835. | " | 10 | " | 0 | " | " | 2 | " | 2 | " |
| 1836. | " | 9 | " | 11 | " | " | 1 | " | 3 | " |
| 1837. | " | 8 | " | 6 | " | " | 2 | " | 0 | " |
| 1838. | " | 8 | " | 9 | " | " | 2 | " | 3 | " |
| 1839. | " | 8 | " | 4 | " | " | 2 | " | 3 | " |
| 1840. | " | 8 | " | 0 | " | " | 2 | " | 5 | " |
| 1841. | " | 10 | " | 5 | " | " | 2 | " | 5 | " |
| 1842. | " | 8 | " | 8 | " | " | 3 | " | 0 | " |
| 1843. | " | 7 | " | 6 | " | " | 2 | " | 0 | " |
| 1844. | " | 9 | " | 0 | " | " | 1 | " | 4 | " |
| 1845. | " | 8 | " | 5 | " | " | 2 | " | 0 | " |
| 1846. | " | 8 | " | 10 | " | " | 2 | " | 8 | " |
| 1847. | " | 8 | " | 3 | " | " | 2 | " | 10 | " |
| 1848. | " | 6 | " | 11 | " | " | 1 | " | 11 | " |

Snow 161 feet 9 inches. Rain 37 feet 9 inches.

The total includes the fractions of an inch which were registered, but not in our table—and the whole table shows, as far as it respects the fall of snow and rain, that there is no perceptible change created by improvements in agriculture, or other causes, during the past 18 years. We have heard many observations made in regard to the winter seasons being more mild now than they were some 20 years ago. This table throws some doubt over these opinions;—plain facts are indisputable.

Magnetic Stone.—A brown stone, in no respect presenting any thing by which it can be distinguished from other rude stones around it, is found, upon examination, to possess the power of drawing light particles of iron towards it. If this stone be placed upon a table, and iron filings are thrown lightly around it, we discover that these filings arrange themselves in symmetric curves, proceeding from some one point of the mass to some other; and upon examining this, we find that the iron which has once clung to one point, will be rejected by the other. If this stone be freely suspended, we shall learn also that it always comes to rest in a certain position—this position being determined by these points and some attractive force residing in the earth itself. These points we call its poles; and it is now established that this stone is but a weak representative of our planet. Both are mag-

netic; both are so in virtue of the circulation of currents of electricity, or of lines of magnetic force, as are seen in the curves formed by the iron dust, and the north pole of the one attracts the south pole of the other, and the contrary. The stone is partly composed of an oxide of iron, to which it owes its color.

Longevity of the Damask Rose.—There is a rose-bush flourishing at the residence of A. Murray McIlvaine, near Bristol, Pa., known to be more than a hundred years old. In the year 1742, there was a kitchen built, which encroached on the corner of the garden, and the mason laid the corner stone with great care, saying, "it was a pity to destroy so pretty a bush." Since then it has never failed to produce a profusion of roses, shedding around it the most delicious of all perfumes. Sometimes it has climbed for years over the second story windows, and then declined by degrees to the ordinary height. The fifth generation is now regaled with its sweets. Not far from this venerable bush is a tree, of the same age, now measuring 35 feet in circumference—a buttonwood.

Light.—It has been demonstrated that light is about eight minutes in moving across one half of the earth's orbit; consequently it moves at the astonishing rate of 200,000 miles in a second. Therefore, if each of its particles weighed the thousandth part of a grain, its force would be greater than that of a bullet discharged from a musket. Were it even the millionth part of a grain in weight, it would destroy every thing against which it should strike. If it even weighed the millionth part of that, it would still have a very sensible force. But how much less must be a particle of light, which makes no sensible impression upon so delicate an organ as the eye! We are certain, then, that no particle of light can weigh 1,000,000,000,000 part of a grain! It may be remarked, that light leaves the body of the sun with a velocity equalled only by the extent of its journey. It goes from planet to planet, from sun to sun, distributing colors, illuminating and enlivening all nature.

Interesting Geological Fact.—Professor Aggassiz, in a recent lecture, stated an interesting fact, in connection with his remarks upon the family of the rose, which includes among its varieties not only many of the most beautiful flowers which are known, but also the richest fruits, such as the apple, pear, peach, plum, apricot, cherry, strawberry, raspberry, blackberry, &c.—viz. that no fossils belonging to this family have ever been dis-

covered by geologists. This is regarded as conclusive evidence that the introduction of this family of plants upon the earth was coeval with, or subsequent to, the creation of man.

COLLODION FOR WOUNDS.—Finely powdered nitrate of potash, 40 parts by weight; concentrated sulphuric acid, 60; carded cotton, 2. Mix the nitre with the sulphuric acid in a porcelain vessel, then add the cotton, and agitate the mass for three minutes by the aid of two glass rods. Wash the cotton, without first pressing it, in a large quantity of water; and, when all acidity is removed, (indicated by litmus paper,) press it firmly in a cloth. Pull it out into a loose mass, and dry it in a stove at a moderate heat.

The compound thus obtained is not pure fulminating cotton. It always retains a small quantity of sulphuric acid, is less inflammable than gun cotton, and it leaves a carbonaceous residue after explosion. It has, however, in a remarkable degree, the property of solubility in ether, especially when mixed with a little alcohol; and it forms therewith a very adhesive solution, to which the name of Collodion has been applied.

The collodion is prepared as follows:

| | | |
|---|---|---|
| Prepared cotton, - - - - - - | 8 | parts by weight. |
| Rectified sulphuric ether, - - - | 125 | " " |
| Rectified alcohol, - - - - - - | 8 | " " |

Put the cotton with the ether into a well stopped bottle, and shake the mixture for some minutes. Then add the alcohol by degrees, and continue to shake until the whole liquid acquires a syrup-like consistency. It may then be passed through a cloth, the residue strongly pressed, and the liquid kept in a well secured bottle.

Collodion thus prepared, possesses remarkably adhesive properties. A piece of linen or cotton cloth covered with it, and made to adhere by evaporation in the palm of the hand, will support after a few minutes, without giving way, a weight of from 20 to 30 pounds. Its adhesive power is so great, that the cloth will commonly tear before it gives way. The collodion cannot be regarded as a perfect solution of cotton. It contains, suspended and floating in it, a quantity of the vegetable fibre which has escaped the solvent properties of the ether. The liquid portion may be separated from these fibres by a filter, but it is doubtful whether this is an advantage. In the evaporation of the liquid, these undissolved fibres, by felting with each other, appear to give a greater degree of tenacity and resistance to the dried mass.

In the preparation of collodion, it is indispensable to avoid the presence of water, as this renders it less adhesive; hence the

ether, as well as the alcohol, should be pure and rectified. The parts to which the collodion is applied, should be first thoroughly dried, and no water allowed to come in contact with them, until the ether is evaporated.

This is the famous substance now used for dressing wounds.

MANUFACTURING PROFITS AT THE SOUTH.—The Augusta Manufacturing Company have declared a dividend of 3 per cent. for the last three months, which is at the rate of 12 per cent. per annum. The Augusta Chronicle says: This result is the most remarkable when it is borne in mind, that during this time only one hundred and sixty looms have been in operation. The fall complement, with the present capital, would be two hundred looms. When the additional capital of forty thousand dollars, subscribed by the original stockholders, is paid in, the number of looms will be increased to three hundred and twenty-five. Some idea may thus be formed of the future business and profits of the Company.

We will not prolong our Summary, because we have an excellent scientific article in the body of this number.

# BIBLIOGRAPHICAL NOTICES.

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SANITARY SURVEYS: *House Documents, No. 66.—The Report of the Joint Special Committee, in the Legislature of the Commonwealth of Massachusetts, on a Sanitary Survey of the State.*

We call attention to this document, for the double purpose of appropriating some facts it embodies, and of invoking public consideration to the importance of investigating the laws of health. Human life has been greatly protected by the scientific discoveries of the past century; but vast improvements can yet be made in the condition of the mass of the people, as to that essential prerequisite of happiness, Health.

The difference in the comparative longevity of the poor and those in independent circumstances, is startling, and should induce every philanthropist to inquire into the causes of oppression, and resolve upon their removal. For instance, in Dorchester, during more than a quarter of a century, the duration of life among the poor was twenty-seven years and five months, while that of the prosperous farmers was forty-five years and eight months. In Boston, the average age of those who were buried in the Catholic cemetery, was only thirteen years, five months, and nine days; while that of all who died in the city, was twenty-two years, eight months, and nineteen days. In some towns the more favored classes enjoy a length of life 66 per cent. greater than that of the poor; and while less than 13 per cent. of the children of affluence die under two years, more than 32 per cent. of the children of the poor die within the same period of infancy. The difference is still greater in England, the facts of which we shall give in an article for a future number of the Review.

There is found to be a great difference as to various localities. For instance, the average duration of life in Franklin county is thirty-eight years, ten months, and twenty-four days, while in

Middlesex it is only twenty-eight years, two months, and twenty-two days.

There is also a vast difference as to the city and country. The report of births, deaths, and marriages of England, for 1838 and 1839, shows the following:

| | Population. | Inhabitants to square mile. | Deaths annually. |
|---|---|---|---|
| Country districts, - - | 3,559,323 | 206 | 1 to 54. |
| City districts, - - | 3,769,002 | 5,045 | 1 " 38. |

In another report it is stated that for every hundred that died in the country districts, one hundred and forty died in the city districts. In the country, 20 per cent., and in the city, 9 per cent., survived their 70th year. The report of the Health Commissioner for 1844, shows that in some cities the population is denser than 5,045 to the square mile. Leeds has 87,000, Manchester 100,000, and Liverpool has 138,222, on each square mile of their respective builded areas; and the frequency of deaths corresponds to the density of the population, thus:

| | | | |
|---|---|---|---|
| In Leeds | it was | 1 to | 36. |
| " Manchester | " " | 1 " | 29. |
| " Liverpool | " " | 1 " | 28. |

In the same city this difference is seen. Thus, in Liverpool, the mortality is as one to 41 inhabitants in the best, and one to 23 in the worst wards. Still another more startling fact is given. One district in Liverpool contains 49,000 square yards, and 7,938 inhabitants, giving a ratio of 657,963 to the geographical square mile! In one part of this district one-tenth, and in another one-seventh of all the inhabitants, were annually attacked with fever.

Is it not important, then, that attention should be given to the promotion of the public health and the prolongation of human life, until God has done with us here, and calls us home according to His law of spiritual progress and physical dissolution? It were better that fewer come into the world, and be enabled to lead a happy life until Nature demands the change of place from the material to the spiritual, than that so many should be born to lead a miserable life, and prematurely die—half developed, half fitted for the change of state.

A LECTURE ON AFRICAN COLONIZATION, *delivered in the Hall of the House of Representatives of Ohio. By* DAVID CHRISTY, *Agent of the American Colonization Society.*

This is a lecture of fifty-six octavo pages, embodying a large mass of facts on the subject of the slave trade and the Liberia Colonization. We take it up for the purpose of clipping its facts. It is needless to say that the lecture is an exceedingly able one, uniting great labor and care in its production.

The following table is taken from Parliamentary documents:

| Dates. | Annual average number exposed. | Average casualties during the voyage. *Per Ct.* | *Amount.* |
|---|---|---|---|
| 1798 to 1805 | 85,000 | 14 | 12,000 |
| 1805 to 1810 | 85,000 | 14 | 12,000 |
| 1810 to 1815 | 93,000 | 14 | 13,000 |
| 1815 to 1817 | 106,000 | 25 | 26,600 |
| 1817 to 1819 | 106,000 | 25 | 26,600 |
| 1819 to 1825 | 103,000 | 25 | 25,800 |
| 1825 to 1830 | 125,000 | 25 | 31,000 |
| 1830 to 1835 | 78,500 | 25 | 19,600 |
| 1835 to 1840 | 135,300 | 25 | 33,900 |
| 1840 | 64,114 | 25 | 16,068 |
| 1841 | 43,097 | 25 | 11,274 |
| 1842 | 28,400 | 25 | 7,100 |
| 1843 | 55,062 | 25 | 13,765 |
| 1844 | 54,102 | 25 | 13,525 |
| 1845 | 36,758 | 25 | 9,189 |
| 1846 | 76,117 | 25 | 19,029 |
| 1847 | 84,356 | 25 | 21,089 |

This enormous increase of the slave trade, it must be remembered, had taken place during the period of vigorous efforts for its suppression. England, alone, according to McQueen, had expended for this object, up to 1842, in the employment of a naval force on the coast of Africa, the sum of $88,888,888, and he estimated the annual expenditure at that time at $2,500,000. But it has been increased since that period to $3,000,000 a year, making the total expenditure of Great Britain for the suppression of the slave trade, at the close of 1848, more than *one hundred millions of dollars!* France and the United States have also expended a large amount for this object.

*Table showing the number of the Free Colored Population of the United States.*

| YEARS. | 1790 | 1800 | 1810 | 1820 | 1830 | 1840 |
|---|---|---|---|---|---|---|
| Total number | 59,466 | 108,398 | 186,446 | 238,197 | 319,499 | 386,235 |
| Actual increase | | 48,932 | 78,048 | 51,751 | 81,402 | 66,636 |
| Increase per ct. per annum | | 8.22+ | 7.20+ | 2.77+ | 3.41+ | 2.08+ |

*Table exhibiting the number of Slaves in the Free States from 1790 to 1840.*

| YEARS. | 1790 | 1800 | 1810 | 1820 | 1830 | 1840 |
|---|---|---|---|---|---|---|
| Total number | 40,212 | 35,803 | 27,181 | 18,001 | 2,774 | 764 |
| Actual decrease | | 4,409 | 8,622 | 9,180 | 15,227 | 2,010 |
| Decrease per ct. per annum | | 1.23+ | 3.17+ | 5.04+ | 18.88+ | 26.30+ |

*Rate per cent. per annum of increase of Population of the United States.*

| Years. | Whites. | Free colored. | Slaves. | Free colored and Slaves. | All combined. |
|---|---|---|---|---|---|
| 1790 to 1800 - - | 3.56 | 8.22 | 2.79 | 3.22 | 3.50 |
| 1800 to 1810 - - | 3.61 | 7.20 | 3.34 | 3.75 | 3.64 |
| 1810 to 1820 - - | 3.43 | 2.77 | 2.95 | 2.93 | 3.33 |
| 1820 to 1830 - - | 3.38 | 3.41 | 3.01 | 3.06 | 3.32 |
| 1830 to 1840 - - | 3.46 | 2.08 | 2.32 | 2.33 | 3.26 |
| Average - - | 3.48 | 4.73 | 2.88 | 3.06 | 3.41 |

We find the following statement in relation to the number of slaves in the United States at an earlier period, in a religious periodical. At the time of the Declaration of Independence, in 1776, the whole number of slaves was estimated at 500,000, viz.

| | | | |
|---|---|---|---|
| Massachusetts, - - | 3,500 | Maryland, - - - | 80,000 |
| Rhode Island, - - - | 4,373 | Virginia, - - - - | 16,500 |
| Connecticut, - - - | 6,000 | North Carolina, - | 75,000 |
| New Hampshire, - - | 629 | South Carolina, - | 110,000 |
| New York, - - - | 15,000 | Georgia, - - - - | 16,000 |
| New Jersey, - - - | 7,600 | | |
| Pennsylvania, - - | 10,000 | Total, - - - - | 502,133 |
| Delaware, - - - - | 9,000 | | |

The number of slaves that have been emancipated during various periods, is as follows:

| | | | |
|---|---|---|---|
| 1790 to 1800 | emancipations were | - - - - | 37,042 |
| 1800 to 1810 | " | " - - - - | 56,414 |

| | | | | | |
|---|---|---|---|---|---|
| 1810 to 1820 | emancipations were | - - | - - | | 14,471 |
| 1820 to 1830 | " | " | - - | - - | 33,772 |
| 1830 to 1840 | " | " | - - | - - | 000 |

By a law of New York 10,000 slaves were emancipated in one day, in 1827, thus decreasing the number of slaves, and increasing the free colored, as stated in this table.

The following table shows the number of free people of color in each of the twenty-four principal States:

| | | | | | |
|---|---|---|---|---|---|
| Maine, | 1,355 | Pennsylvania, | 47,854 | Tennessee, | 5,524 |
| N. Hampshire, | 537 | Ohio, | 17,342 | North Carolina, | 22,732 |
| Massachusetts, | 8,669 | Indiana, | 7,165 | South Carolina, | 8,276 |
| Rhode Island, | 2,238 | Illinois, | 3,598 | Georgia, | 2,753 |
| Connecticut, | 8,105 | Delaware, | 16,919 | Mississippi, | 1,366 |
| Vermont, | 730 | Maryland, | 62,020 | Missouri, | 1,574 |
| New York, | 50,027 | Virginia, | 49,842 | Alabama, | 2,039 |
| New Jersey, | 21,044 | Kentucky, | 7,317 | Louisiana, | 25,505 |

The rapid increase of our slave population is beginning to alarm the stoutest advocates of the perpetuation of slavery. With their uniform ratio of increase continued, which, it will be remembered, is *three per cent. per annum*, in 50 years, from 1850, the slave population of the United States will number 12,000,000, with an annual increase of 360,000. In 100 years hence, they will have increased to 44,500,000, with an annual increase of 1,300,000. And in 150 years their numbers will be 165,000,000, and the yearly increase 5,000,000.

THE NINETEENTH CENTURY—*A Quarterly Miscellany. Vol. III., No.* 1. *January*, 1849. *Philadelphia*, G. B. ZEIBER, *Agent.*

The leading article of this throbbing Quarterly, is by Horace Greely, entitled "The Pilgrimage to Manhood." The author lays hold of the strong points in Human Nature, and forcibly sets forth the prerequisites to true manhood. He explodes many erroneous views, among which is the puerile notion that the learning of the schools—a regular diploma—is essential to the triumph of Genius. On touching this subject, we are reminded of the forcible remark of the Lynn Pioneer, in a recent article on the study of the dead languages:

"A Washington in statesmanship, a Napoleon in arms, a Franklin in philosophy, a Marshall in jurisprudence, a Fielding in romance, a Henry in eloquence, and "one Will Shakspeare" in poetry, demonstrate the possibility of some considerable success

in the highest departments of mental exertion, with the smallest possible knowledge of the defunct tongues of those old Greeks and Romans. * * * Dr. Spurzheim, who sometimes wrote in Latin, as well as lectured in three or four of the living languages, complained, when examined for admission into the London College of Surgeons, of being asked if he knew Latin. He thought it enough if he were acquainted with the science he proposed to practice, and remarked, that he anticipated no occasion for talking to his patients in Latin. The acquisition of one new idea is of more value than that of twenty new names for an old one. There was wisdom, therefore, in the reply which Dr. Franklin is said to have made, when asked why he did not study the classics. He found his own language adequate to the expression of all the ideas he had, and chose to occupy his time in teaching those, and learning new ones."

Mr. L. M. Knowlton contributes a sprightly poem, entitled the "Snow King."

The next article is by William Henry Channing, on "The Christian Church and Social Reform." The author follows the Church through its various eras, and concludes that the fifth era into which we have entered, is that of *Co-operation*. The spirit of the paper is that of Association—its philosophy that of Fourier. The following reference is made to *Communism:*

"In the State arises the cry of *Communism*. What means it? Not plunder, not murder, not arson, or rapine. No, O trembling brothers! it is the memory of your own selfishness, which haunts you now with fears of violence. The masses are not mad: they are only so eager in pursuit of an indispensable end, that they break down the palings of your trim gardens, and tread upon your flower-beds, quite unawares. Their meaning is simply this, that wealth is wrung out of the hands of workers; and that earth is the realm of the evil one, if it is actually necessary, that the growers and gatherers of corn should starve, and the weavers of cotton and wool freeze, and the builders of all homes be houseless. And, before Heaven, are they not right? Yet, doubtless, there is this error in their logic,—which makes pale the cheek of the proprietor,—that they forget how much faster labor, in the shape of material and machinery, facilitates their present toil, and therefore do not estimate fairly the share of profits which capital may justly claim."

Will the author estimate the profits which capital may justly claim beyond the wear and tear?

S. D. Anderson contributes a stirring "Song of Toil," beginning—

"Toilers, see, the day is breaking,
Man, from chains and bondage waking,
Off the badge of slavery shaking,
Will be free.
Look and see yon flag unfurled;
Give this watchword to the world:
Despots to the earth be hurled!—
On for liberty.
'Up and at them,' ever onward,
Keep your hearts and purpose sunward."

Cora Montgomery contributes "Our Late War with Mexico," and argues that it was unjustly commenced, dishonorably prosecuted, and unsatisfactorily concluded. C. Chauncy Burr, the editor, contributes "A Hymn to Beauty," and "Men of Genius;" Carlos D. Stuart contributes "Shelley, the Democrat," and "The Poor Man's Hymn;" George Lippard, "The Iron Door;" Theophilus Fisk, "Abuses in the Navy;" Thos. Dorsy McGee, "The Five Irish Felons," illustrated with portraits; Henry Reeve translates from the German "The Hours of Life, and the Hour of Death;" and R. W. Brown contributes the "Song of the Hand." To show the style of the editor, we will quote a paragraph from his "Men of Genius:"—

"And yet, if we are to believe the newspapers, and to respect the estimate which each and every man puts upon himself, there is, after all, really no such thing as a *great man*. But we are all of us only very convenient and plastic earth, formed and made up of *circumstances*, into the various shapes, grave or fantastic, in which we find ourselves existing. So every man would be a genius ready made, if the *circumstances* were but polite enough to come that way and draw him out of the present slough of despond. This appears to be the popular doctrine. And so every simpering lover, and, it may be, every goated dandy, whose heart thumps his ribs at the sight of some beautiful girl, conscious that the *circumstances* have come at length to wait upon his genius, and forthwith he falls to writing sonnets on alabaster necks and snowy bosoms. And does this account for the poetry of the magazines and newspapers? Alas, our country is getting to be crowded most uncomfortably full of genius. And, as if it

were not enough that every timid tape-and-bobbin measurer in the land is a regular genius, after the order of Melchisedec, we still hear marvelous accounts of the vast amount of undeveloped genius in our borders."

THE WESTERN LANCET *and Hospital Reporter. Edited by* L. M. LAWSON, M. D., *Professor of Materia Medica and Therapeutics and General Pathology, in the Medical College of Ohio; and* JOHN P. HARRISON, M. D., *Professor of Theory and Practice in the Medical College of Ohio. February*, 1849. *Cincinnati:* E. PENROSE JONES.

We feel called upon to speak particularly of the editors of this work. Dr. Lawson is a man of rare acquirements and industry in his profession, and discharges his duties as Professor and Editor with dignity and ability. But we cannot say this of Dr. Harrison. He is the best specimen of a Literary Quack we know. He is destitute of all decorum as a man of science, and his recent connection with the Lancet has injured it. For instance, there is an article in the January number, on "Medical Reform," which would do honor to the most scurrilous sheet of the land. It is the lowest species of ribaldry. Dr. Harrison is a decided Bombastes Furioso in defending the Regular Profession, as instance the following, from an address of his delivered a year or two since, on the necessity of unity in the profession:

"The *manifested unity* of the profession is not a trivial concern in this day of hydra-headed empiricism,—this laudible manifestation of oneness among us can be, in no mode, more luminously evinced than in our spontaneous aggregation, under the law of an elective affinity, which receives its primary force of action, from the impellent movement of a magnetism, which is neither animal nor terrestial, but sciential. Our pole star is truth; the compass we steer by is benevolence to man; and the chart which lies before us is the knowledge of man's physical frame, in its varying modes of health and sickness; in its gradual growth from the intra-uterine punctum saliens to its more advanced condition of joyous activity in youth, its matured energy in manhood, and its declining powers as years accumulate, to the decadence, and final extinction of all its phenomena in complete senescence. Our noble ship is well timbered, for already she has rode the rude surges for more than two thousand years;—she

is tightly rigged; her sails are open to the favoring breeze, and all things are ready for a prosperous voyage. Shall not all hands be aboard;—shall there be any mutiny in her crew, or want of intelligence in her officers,—that will frustrate her destination, or subject her to piratical marauders?"

The author of this beautiful extract is Dean of the Faculty of the Ohio Medical College. The following passage is from his valedictory address to the graduating class of the last session:

"The same sun that quickens into beauty and usefulness the foliage, and flowers, and fruitage of the earth that delight the eye, and please the palate, and nourish the body, imparts virulence to the lurid plants which prove inimical to the life, as well as nauseous to the taste of man. Thus whilst the vivifying beams of popular freedom have nourished into life the fair and useful results of legitimate medicine, they have animated into disastrous being the vile offspring of a crude system of medication.

> "So when the Jewish leader stretched his arm,
> And waved his rod divine, a race obscure,
> Spawned in the muddy beds of Nile, came forth;
> The croaking nuisance lurked in every nook,
> Nor halls of legislation 'scaped,
> And the land stank, so numerous was the fry.

"Let us with earnestness, as a profession, oppose these abominable imitations of true science; these spurious, ill-concocted, misshapen, abortive schemes of practice, which conceived in ignorance or wrong-headedness, brought forth in impudence or strong-headedness, dry-fed by vanity, or light-headedness, and distended by the fumes of a fitful, popular breath, are strutting and vaporing in professional apishness, as if truth smiled on their impostures, and science claimed their trickeries and shallow devices, tattered and made stale in the service of quackery."

We would quote a passage from the article in the Lancet referred to above, but, really, it is too indecent to appear in print.

METHODIST QUARTERLY REVIEW—*Vol.* XXXI. *Fourth Series, Vol.* I. *January*, 1849. J. M'CLINTOCK, D. D., *Editor. New York. pp.* 160.

It is pleasant to read this periodical on account of the neatness of its typography, if nothing else. It is one of the most beautiful specimens of the art that comes to our table.

It opens with a portrait of Rev. James Dixon, D. D., President of the Conference, accompanied by a biographical sketch. This

is followed by a disquisition on "The Lord's Day, the Christian Sabbath."

The next paper is concerning "The Literature of Politics—the Reporter and the Letter Writer," wherein it appears that the reporter is entitled to much of the literary credit awarded to the political orators of the world.

The fourth article is on Dr. Channing, in which a very liberal view is taken of this Theological Reformer—liberal, we mean, for an orthodox writer. It is said of him that he never read the eulogistic review of his works in the Westminster Quarterly, nor the malicious criticisms of Hazlitt and Lord Brougham in the Edinburgh Review, though they were several times in his hands. He said, "I have felt that the less I read about myself, the better." Few authors can say as much. It is related of him, that in a conversation concerning barbarous modes of punishment in the navy, he silenced all defence of the lash, by exclaiming, in his peculiar manner, "What! *strike a* MAN!" Channing was born at Newport, R. I., April 7, 1780; entered Harvard University at fourteen, and graduated at eighteen; spent two years as private tutor in Richmond, Va.; returned to Cambridge, as Regent, in 1801; was settled as pastor of Federal street Church, Boston, in 1803; visited Europe in 1822; began his celebrated essays on Milton, Napoleon, and Fenelon, which distinguish the commencement of his literary career proper, in 1826; visited the West Indies in 1830; commenced his anti-slavery labors in 1835; and died Oct. 2, 1842.

The next article elucidates the meaning of the Hebrew word *sheol*, and concludes it to be the place of the dead.

Article sixth is on "The Progressive Principle of Language and Style," in which many inaccuracies of writers are exposed—inaccuracies found in the classics, such as want of perspicuity and an improper collocation of words.

We then come to a review of the Biography of Rev. Edward Irving, which concludes with this singular sentence—"His errors were of the judgment, not of the will or the heart; and we feel convinced that all candid minds, by whom this truly great and good man was duly appreciated, will consent to a like decision." It strikes us that it is no apology for a man's errors to say, they

"are of the judgment, not of the will or heart;" for errors from either source are the result of some mental deficiency—some lack of development, for which the individual is as much responsible in one case as in the other.

After a review of Carlyle's works, we come to a long table of short reviews and notices of books, to which we shall pay no attention, except to the charge of plagiarism clearly proved against Dr. Paley, the Blackstone of Theology, as he has been called. The charge was made and supported in the London Athenæum. It appears that Paley's Natural Theology is but a running commentary upon Dr. Nieuwentyt's Christian Philosopher. Dr. Nieuwentyt was a divine of Holland, and published his work in 1700. The general arrangement is not only similar in style and the same in substance, but the introductory argument of Paley is copied nearly verbatim from Nieuwentyt! The book of the Holland divine was published about one hundred years before that of Dr. Paley.

PSYCHOMETRY.—*Buchanan's Journal of Man, for January, February, March, and April.*

As we would attend to all matters of interest that arise, we would not forget the theory of Psychometry, of which Dr. Buchanan claims the paternity.

The term *Psychometry* is derived from two Greek words—*psuchee*, signifying spirit, and *metron*, measure; and both combined may be interpreted the measure of the soul or mind. That is, the theory of Psychometry instructs us in the mode of determining the relative strength of each of the faculties of the mind, the power of the whole mind, as well as the dominant impulses and motives of action which govern each individual, all of which can be determined as well in the absence as in the presence of the subject, and as well after he is dead as while living.

All that is necessary to enable us to thus measure a human spirit which is invisible to the physical sense, is to put a person of "peculiarly fine, sensitive, and intellectual endowments" into a species of semi-magnetic state, in which the mind receives additional power by a contact with another mind, and the individu-

al rises into a state of partial mental illumination, in which he can spiritually perceive facts in the past, the future, or in the distance, as though they were present. Yea, the individual thus situated is enabled to make discoveries beyond the reach of the mind in its natural state, and to compass almost an infinite range of inquiry. For instance, a folded letter is placed in the hands of the subject, and without any knowledge of its contents he will tell every idea recorded, and even describe the whole character of the writer, and give his ruling motives—in short, the cloak of the hypocrite and the most ingenious disguise of the knave are torn asunder, and the most secret thoughts revealed. The same may be done with the simple autograph of an individual, according to Prof. Buchanan's theory; though a thoughtful friend has suggested that all these wonderful results can be obtained as well, whether the name be written by another, or by the individual who is under examination.

We have thus briefly given an idea of Psychometry. We will cite a few examples as given by Prof. Buchanan himself, in the April number of his Journal of Man. In speaking of the scenes presented when one human spirit is thus attempting to reveal another, the Professor says:

"Oftentimes the scenes which are thus presented will be highly picturesque and poetical—happily illustrative of the true spirit of man. In trying several autographs upon the head of the Rev. Mr. G., I was struck with several of his picturesque sketches. For example—in portraying the Rev. Mr. Bascom, the eloquent Methodist divine, who rose by his own energies from an humble position, he said that the first scene that rose to his mind was an humble forest residence—a small clearing in the woods—the kettles hanging over the fire with forked sticks—a youth of studious disposition cultivating his mind—the various transitions occurred—the country advanced in cultivation—villages and cities sprang up—the youth was observed in other scenes, and soon became a powerful, eloquent, and universally admired orator of the pulpit."

But the most striking experiment mentioned by the Professor, was with his own autograph. After reading it, no one acquainted with him will fail to recognize the truthfulness of the description:

"I placed my own autograph upon his head, and it produced the scene of a leader or adventurer marching on towards a dis-

tant height, while a multitude behind were looking upon his progress, and as he looked back he paused to wait until the foremost could overtake him. He appeared to be covered, as to his head, by a species of Roman helmet, which rendered him insensible to the missiles and weapons which he expected to encounter. As this was a true statement of my position at that time, I thought it a happy sketch; for I had slackened my scientific investigations, and was engaged in propagating my neurological discoveries, hoping that public sentiment might be gradually brought a little nearer to my advanced position in science."

We might criticise the Doctor's manners as a scientific man somewhat, and not prejudice his cause, but rather benefit it. He is, we think, disposed to excite the wonder and curiosity of his readers overmuch. He labors, we had almost said, more to cause his readers to marvel, than to instruct them. This will injure him and his journal; because, if he carry the tide of curiosity too high, and fail to gratify what he excites, there will be a reflux that will be apt to carry the people farther from his reach, and dampen his scientific ardor.

Another fault is, that he does not sink self sufficiently in the all-importance of his discoveries. A true scientific inquirer should let the truths he developes occupy the front ground, and not paint himself there in full giant size.

We would not, however, be fastidious. The Doctor is doing great good, and we invoke the earnest attention of the people to his researches.

THEOLOGY.—*Lectures on Systematic Theology: embracing Lectures on Moral Government, together with Atonement, Moral and Physical Depravity, Regeneration, Philosophical Theories, and Evidences of Regeneration. By* CHARLES G. FINNEY, *Professor of Theology in the Oberlin Collegiate Institute. Oberlin, O.:* JAMES M. FITCH.

The book before us is an attempt, attended with more or less success, to reconcile the great doctrines which have been drawn from the Bible with the conclusions of the Reason and the intuitions of the Soul. It is an attempt to banish the idea of mystery that has hung over theological subjects, and to enable man to grasp

them with his own intellectual powers. This is what no former theologian has attempted. "God's ways are not man's ways," has ever been the answer made to many of the main questions that arise in studying the orthodox theories of God, a Future State, Salvation, &c. Many thoughtful theologians have perceived that this mode of disposing of difficulties will not answer the demands of intelligent and inquiring minds. All feel a consciousness of a light within, and that they were created to let that light shine upon their pathway; that every one has faculties to use, and is bound to use them, let their determinations be what they may; and that if he undertake to cut off inquiry in one respect, there is no limit which can be prescribed to the annihilation of human thought, and the consequent annihilation of the whole man himself.

Mr. Finney is one who has become alarmed in view of the "desolations of Zion," occasioned by the failure of the Church to reconcile reason with revelation, and has really applied himself to the task in "good earnest." His book is one of progressive theology, and will do much good. It has been met by some of the old thinkers (or, rather, no thinkers at all, when reason interposes difficulties) with great acrimony, and is denounced in unsparing terms. Indeed, we anticipated this violent reception in his preface:

"I am too well acquainted with the prejudices of the great mass of professing christians, and with their unwillingness to be at the pains of studying elementary truths and of judging for themselves, to expect that this book will soon find favor with a majority of them. Still, I am aware that a spirit of inquiry into the fundamental and elementary truths of religion, and of all science, is abroad, and is waking up more and more in the Church. There is a deep and growing demand for explanation in regard to the subjects discussed in this work. Especially is this true of ministers and leading laymen and women. This work is an humble attempt to meet this demand. My object has been to simplify and explain. The book has no literary merit, and claims none."

Mr. Finney has been an energetic Church Reformer. His labors have been productive of great good. He has hammered away heartily at the wedge that has been inserted in the old gnarly log of theology, and it has cracked under his blows. He

has established a flourishing Theological Seminary, where young men are educated in the progressive faith.

Mr. Finney has large sympathy with his fellows of all conditions, and he hopes to be recorded, as he will be, among the great Reformers of the Nineteenth Century. We strike hands with him in his efforts to emancipate the human mind, as we are ever ready to second any that look to the abolition of superstition and the triumph of reason. We hold that there is no revealed truth that cannot be demonstrated by the faculties of man. There cannot be such a truth; because as long as man cannot understand a principle, it is to him unrevealed, and it is absurd to call it a revelation. But we did not design an essay in calling attention to this work.

VOICES OF NATURE, *and Thoughts in Rhyme. By* SIDNEY DYER. *Louisville:* COWLING & DAVIS, 1849. BRADLEY & ANTHONY, *Cincinnati.*

The dedication of this work smacks somewhat Magoonish. Thus—"*To all young men who are too aspiring to remain ignorant, too indomitable to be depressed by poverty, and who would rather be wise than wealthy, this volume is respectfully inscribed, by the author.*" It is, nevertheless, a capital dedication, and will serve to start the sluggish blood of many a young man into whose hands we hope the volume may fall.

Before advancing beyond the dedication and preface, we became much prepossessed in favor of the youthful author. The following from the preface is good, because it ridicules the almost universal apology, that the author publishes by particular solicitation, or to distribute among his friends. Thus: "We hold these truths to be self-evident:—that all men are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are, the liberty to write rhymes when they please, and to publish them in a book when it suits their purpose; and that every individual has the right to occupy and improve a portion of the demesne of Literature; provided, always, that he does not appropriate to himself the betterments of his neighbor, without giving due credit for value received."

This volume is neatly printed after the best eastern models, and is of much poetic merit. It is made up of short pieces, of great variety, with many of rare beauty. We have not space to specify, but will give a brace of pleasant pieces, entitled *The Snowflake* and *Song of the Sunbeam :*

### THE SNOWFLAKE.

Little evanescent thing,
Flitting on thy jewelled wing,
Soon to press the plain so drear,
And dissolve into a tear!
Yet I will not weep for thee—
Brighter is thy destiny.

Though the frost may on the plain,
Hold thee with an icy chain,
Spring will come with sunny glee,
To unlock and set thee free.
Mounting up on wings of air,
When the forked lightnings glare;
Riding in the thunder's car,
O'er the spicy lands afar;
Breathing in the leaves of flowers,
Sparkling in the summer showers;
Glowing in the vernal bow,
Leaping with the streamlet's flow;
Mingling with the ocean's waves,
Coursing through the coral caves;
Swimming in the peasant's bowl,
Nectar to the thirsty soul;
Thus a merry round thou'lt go—
Back again a flake of snow!

Such is changing life to me—
Now in sadness, now in glee;
Bathed, at times, in sorrow's tears,
Mounting now above all fears;
Soaring upward to the skies,
Prostrate as the flowret lies;
Doomed to sleep within the grave,
O'er me soon the grass will wave;
Yet as deathless still I know,
As the changing flake of snow!

### SONG OF THE SUNBEAM.

I'm the bright SUNBEAM!
I flit as a dream,
Which gently comes down from the skies,

When sleep with delight
Holds infancy bright,
To close up its soft silken eyes.

O'er lake and o'er sea,
As tripping with glee,
Reflected my beauties I trace;
So soft is the wave,
As lightly I lave,
It trembles as still we embrace.

I lie in the rose,
When freshly unclosed
Its leaves to the sun and the breeze;
I skip o'er the plain,
And ripe waving grain,
Or glide o'er the leaves of the trees.

I shun not the cot,
Where poverty's lot
Holds often the wise and the good;
Through thatch and through pane
I leap in again,
A gift all unsullied from God.

I shrink from the halls,
And thick curtained walls,
Where wealth lies in sorrow all day;
But in at the door
Where dwelleth the poor,
A daily warm visit I pay.

I never will shrink
From the cataract's brink,
But paint in its moisture my bow;
And down on the stream
With radiance gleam,
As stars floating up from below.

On death's pallid cheek,
I often will seek
To glow with the beauty of even;
But finding has fled
The soul of the dead,
Will mount with it gladly to heaven!

The night for awhile
May shadow my smile,
Then Nature in sorrow will reek;

I'll come o'er the lawn
At first peep of dawn,
And wipe each sad tear from its cheek.

In each opened grave
I'll pour in my wave,
To show there is light in the tomb;
And smiling will say,
Come, this is the way
To where I eternally bloom!

EUROPEAN LIFE AND MANNERS, *in familiar Letters to friends. By* HENRY COLEMAN, *author of European Agriculture, and the Agriculture of France, Belgium, Holland, and Switzerland. In two Volumes.* LITTLE & BROWN, *Boston.* BRADLEY & ANTHONY, *Cincinnati.* 1849.

We kept our eye upon Mr. Coleman while publishing his Agricultural series, and from them are prepared to recommend the books before us. The author is not a one-sided man, and he travels to some purpose, by observing all that concerns the well-being of man as well as what relates to the special object of his tour. We cannot forbear quoting a passage from the author's account of his visit to Edinburgh:

"Here, indeed, was such a population as I had never seen before, and human beings in a degree of degradation and lower than any in what I had supposed it possible for human beings to subsist. The filth, the nastiness, the nakedness, the drunkenness, the horrible condition of the streets and yards, the narrow wynds, the dark closes, the loftiness of the houses, (some seven and some eleven stories in height,) with family piled over family, without a foot of yard room or even the most common conveniences of life, staircases without a single window, or any light, excepting what was admitted by the opening at the foot of the passage, (for an outer door is never hung here,) presented a hideous spectacle; and the street crowded with people, bare-headed and bare-footed, exhibiting an assemblage of thousands of miserable, starving, drunken, ignorant, dissolute, poor, forlorn, wretched beings, in the midst of what is called a christian community. After this sight, I went to church, and with what heart I leave you to conjecture—and here I found churches crowded with people full of rancor, breathing anathemas against those who differ with them in opinion, and contending with each other wth all the fury of ancient clans, about church government. What a commenta-

ry suggests itself to a reflecting mind! It seemed to me to resemble nothing more than a contention between the Priest and the Levite about sacrifices over the body of a wounded, robbed, bleeding traveller by the wayside. These people, too, will spend their thousands and thousands for Missions to the Heathen, many of whom are really more of christians than they are themselves, and neglect their poor, suffering brethren, wallowing in wretchedness, and destitution, and vice, at their own doors. * * * These people are many of them engaged in linen manufactories; the wages of many of them do not exceed four shillings per week, out of which they pay three shillings and sixpence for board, and the rest goes for incidentals and clothing, of which, indeed, they have precious little. Their living consists of oat-meal porridge and a little milk in the morning, potatoes and sometimes bread at noon, and porridge again in the evening; and they work fourteen hours in the mills, including an hour and a half for meals. * * * Hardly one woman or child in twenty, I might, perhaps, more properly say one in fifty, has either shoe, stocking, shawl, or bonnet on, and I have some doubts whether petticoat either, and probably are not washed once in a month. * * * There, too, in the midst of all this wretchedness, these poor creatures are thrust one side lest they should be run over by the carriage of the rich man, who comes lolling in his charriot, with a postilion, a driver, and perhaps two footmen, with their powdered heads and gold-headed canes, to serve his pleasure or his pride."

CHURCH AND STATE.—*Essay on the Union of Church and State. By* BAPTIST WRIOTHESLEY NOEL, M. A. HARPERS, *New York.* BRADLEY & ANTHONY, *Cincinnati.* 1849.

This book is valuable for the locality for which it was designed, but is of little service here, except as it embodies useful facts of Church and State folly. A simple argument against such a union is not needed in this country.

We are, of course, opposed to what is commonly understood by union of Church and State. But the only true idea of the Church ought to sit aloft o'er the State, and control all its doings. What is this idea, you may ask, that should thus be sovereign? We answer, that the idea of the Church is the highest principle of excellence comprehended by man. Every one has an ideal of the true life above that which he actualizes. The object of the Church is to embody this idea and furnish the means of attain-

ing and realizing the ideal. It should embody the highest sentiment of the age; and whosoever strives for greater purity of life, and desires, above all things, the advancement of his own and his fellows' highest good, is a member of the true Church. This idea should actuate men on all occasions and in all they do. It should be uppermost in the thoughts and motives of the statesman, and thus be united with the State, and supreme in all its deliberations. There is no other true idea of the Church. It is, we repeat, an embodiment of the highest excellence, without which it is no Church.

CHRONIC DISEASES.—*Banning's Common Sense on Chronic Diseases, or a rational treatise on the mechanical cause and cure of many chronic affections of the visceral organs, of both the male and the female systems. By* DR. E. P. BANNING. *Ninth Edition. New York*, 1848.

We seek useful books to commend to the attention of our readers as well as new ones, and indeed prefer a valuable old one to a worthless volume just from the press.

Such books as the one before us are rare, as well as rarely studied, and at the same time they are invaluable and indispensible to the health and progress of the race. Man cannot greatly improve either in his physical or mental condition, unless he learn the laws of his being and obey them. To acquire this knowledge we must study ourselves, and become familiar with all that is known concerning our constitutions. Physiology should be as indispensible a branch of education as Mathematics, English Grammar, Geography, and Arithmetic may not save us from a thousand sins and a life of wretchedness; but we know that an acquaintance with Physiology will protect us from injuring ourselves, preserve our health, and, if we be deformed, enable us to correct the deformity and transmit to our children better organization than we have. When our Presidents, Professors, Teachers, and Clergymen, shall learn the first principles of human well-being, and the secret of the improvement of the race, we shall be induced to employ our studious hours more judiciously, and our children will be taught "*useful* knowledge." A society was organized some years since in London called The

Society for the Diffusion of Useful Knowledge; but in all their publications we know not as they have attempted to impress the public with the importance of acquiring the *most useful* knowledge—a knowledge of the philosophy of human life, and the true means of physical improvement which involves the happiness of mankind.

Mankind need a physiological as well as a spiritual salvation, and the latter in a great measure depends upon the former. It is useless to talk to us of the spiritual salvation of a man, the base of whose brain is developed beyond the control of the superior region, for it is impossible for such an one to control his propensities to evil. But Physiology tells us how to prevent the transmission and perpetuation of such unfortunate organizations, and no other gospel will give us this knowledge.

It is a sin, therefore to suffer the young to grow up in ignorance of themselves, and as strict an account will be hereafter demanded for neglecting Physiology as for disregarding the Bible.

We, therefore, call attention to Dr. Banning's work as affording many important hints. The author employs his time in lecturing on Physiology and instructing in the exercises which can be adopted to produce a symmetrical and healthful development of the body. An individual of hollow breast, and stooping down over a contracted chest, can become erect, and obtain a capacious breast with lungs full and healthy, by pursuing the proper physical training. Thus, one who would otherwise prematurely die of consumption, will be saved for many years to be admired for his symmetrical power and perfect health. Let the people think of these things.

THE ADVENTURES *of Caleb Williams; or things as they are. By* WILLIAM GODWIN. *J. A. & U. P. James, Cincinnati.*

William Godwin, the author of that inestimable work, entitled Political Justice, occupied a position in Philosopy, at least a century in advance of his age. He taught truth to which few, even now have attained, though there is a slow but certain progress of the general mind in the reception of his doctrines. He was a most ardent sympathiser with his fellows, and a most gener-

ous enthusiasm animated his spirit. We have not space here to enlarge upon his peculiar views, but will quote a few passages that scintillate the fire of his soul.

"Children are a sort of raw material put into our hands, which if we do not ultimately mould in conformity to our wishes, it is because we throw away the power committed to us, by the folly with which we are accustomed to exert it."

Again, speaking of education, he says:

"Our labor is expended, not in teaching truth but in teaching falsehood. When that is the case, education is necessarily and happily maimed of half its power. The success of an attempt to mislead can never be complete. We continually communicate in spite of ourselves, the materials of just reasoning; reason is the genuine exercise and truth the native element of our intellectual nature; it is not a wonder, therefore, that with a crude and abortive plan to govern his efforts, the preceptor is perpetually baffled, and the pupil who has been thus stored with systematic delusions, and half discovered, clandestine truths, should come out any thing rather than that which his instructor intended him. * * * * *

"Speak the language of truth and reason to your child, and be under no apprehension for the result. Show him that what you recommend is truly valuable and desirable, and fear not but he will desire it. Convince his understanding and you enlist all his powers, animal and mental, in your service. How long has the genius of education been disheartened and unnerved by the pretence that man is born all that it is possible for him to become."

Again, speaking of the obligation of all to act for the general good, he is inspired to utter the following truth:

"Suppose, for example, that it is the right of one man to possess a greater portion of property than another, whether as the fruits of his industry, or the inheritance of his ancestors. Justice obliges him to regard this property as a trust, and calls upon him maturely to consider in what manner it may be employed for the increase of liberty, knowledge and virtue. He has no right to dispose of a shilling of it at the suggestion of his caprice. So far from being entitled to well earned applause for having employed some scanty pittance in the service of philanthropy, he is in the eye of justice a delinquent if he withhold any portion from that service. * * * In the same manner as I hold my property, I hold my person as a trust in behalf of mankind. I am bound to employ my talents, my understanding, my strength and my time for the production of the greatest quantity of general good.

Such are the declarations of justice—so great is the extent of my duty."

Under these principles how long would it take to regenerate all mankind and banish the evils of poverty and ignorance? These quotations are sufficient to commend any thing he has published to the careful attention of the people.

ADDRESS *on the progress and dignity of the Medical Profession; delivered before the trustees, faculty, students and friends of the Starling Medical College, at its Annual Commencement, February* 17, 1849. *By* B. T. CUSHING, ESQ., *Columbus, Ohio.*

This is an interesting address from which we take a passage Speaking of the Black Death, or Great Mortality, in illustration of the progress of Medical Science, Mr. Cushing says:—

"This dreadful scourge broke out in the east in the year 1333, and with various symptoms traversed, during twenty-six years, the whole of the Old World, from China to England. Wherever it came, people were oppressed with dumb fear, or grew mad with terror. The churches were closed—family ties were dissolved—mothers deserted their children, and children their parents. The miser forgot his gold, and the lady her lover. Every thing the sick had touched, their breath and clothes, spread the contagion. Merchants of immense wealth brought their goods to the church, but money had become poison, and the monks only received it to die. The churchyards could no longer contain the corpses, and they were left unburied, or arranged by thousands in pits, or thrown into the rivers. China lost thirteen millions of inhabitants. India was depopulated. Tartary, Mesopotamia and Syria were covered with dead bodies. The Kurds 'fled in vain to the mountains.' In Caramania and Cesarea, none were left alive. Only a few cities of Asia escaped, and her loss, aside from that of China, was nearly 24,000,000. From the Orient, preceded by an offensive mist, the plague settled down upon Italy and Europe. Here ensued the same scenes—the closing of churches, the division of families—the destruction of business, and the devastation of cities. More than 200,000 towns and villages were depopulated. Italy lost half of her inhabitants. Germany 1,200,000. In many places in France, not more than two in twenty were left alive. In England, it is said nearly nine-tenths of the inhabitants perished, This last is evidently too large an estimate, but without exaggeration, Europe was dispoiled of 25,000,000, or one-fourth of its

entire population. In Florence, it was forbidden to toll the bells, lest the survivors should surrender to despair; and the historian records, that when the plague had ceased, 'men thought they were still wandering among the dead, so livid had terror and anxiety left the countenances of the survivors.'

"Amid this terrible havoc, when death appeared, seated upon his pale steed, waging a war of extermination against mankind, where were the Medical Profession of that age? With a laudable desire for self-preservation, the most of them declared that medical aid was unavailing, and sought, in contagion, to justify flight. Guy de Chauliac alone remained at Avignon. And now we behold one of the most curious documents recorded in history. The College of Physicians of Paris, being the most celebrated of the fourteenth century, were called upon to give their opinion regarding the Great Mortality. They published a bulletin, which is still preserved, and which, as a professional exposition, is certainly without an equal in this or any other age. They gave, as the occasion of the plague, that the 'Constellations which combatted the rays of the sun, had struggled with the waters of the Great Sea, and originated vapors'—that 'the sun and fire had attracted a great portion of the sea to themselves, that the waters were corrupted, and the fish died, and the vapor over-spread the earth like a fog,' and the like would continue 'so long as the sun remained in the sign Leo!' Thus much for the opinion of the very learned faculty regarding its cause. The means of prevention pointed out were equally singular. The Medical College stated that they relied on 'Constellations striving with the aid of nature, by virtue of their divine might to protect and heal the human race,' and followed this by recommending some simple rules for diet and exercise, for the burning of vine wood and green laurel, and by the sage advice that 'fat men should not sit in the sun,' nor 'rain water be used in cooking.' Of the astral influence in producing the Great Mortality, all the physicians of that day were fully convinced. A grand conjunction of Saturn, Jupiter and Mars, in the sign of Acquarius, was considered the primary cause of the Black Plague."

EMERSON BENNETT.—*Bandits of the Osage, Mike Fink, Kate Clarenden, Prairie Flower, Leni-Leoti, &c.*

The celebrated actor, Garrick, was asked by a friend of the Theological profession, why it was that actors, who represent fiction, make so much stronger impressions upon their auditors, and control their feelings so much more effectually, than clergymen,

who teach the truth? The reply was truthful as it was witty—"We, actors, portray fiction as if it were truth; while you, clergymen, speak the truth as if it were fiction."

This may account, in part, for the greater popularity of works of fiction than of works of philosophy, theology, art, and science. The novelists descend into the deep and strong nature of man, and lay bare the human heart. They enter into the spirit of the various characters they describe, and impart something of reality to their ideals. The fault, on the other hand, with those who speak and write in the cause of truth, is, that they fail to get into the spirit of truth themselves, and do not warm with the theme and glow with the ardor that should inspire them.

Mr. Bennett has written many powerful novels during the past three years. The great fault we have heretofore noticed in his works, is the too great familiarity with cruel scenes, which is injurious to his readers. We think he is fast correcting this fault, and is courting the higher and more genial manifestations of Humanity which are rapidly taking hold of the masses. The time is fast approaching when all portraitures of blood will be revolting to the millions, and few will be found to read them.

Mr. Bennett's novels have been extensively sold, and their popularity is sufficient testimony of the mental strength expended in their composition. We shall await each new publication of this author with interest, looking for still further improvement in the matter to which we have referred. The public taste is ripe for more of the gentle and amiable in human nature, and he will be fortunate who most successfully supplies this growing demand.

## Art. XVIII.—MRS. LEWIS' POEMS.

*The Child of the Sea and other Poems.* By S. Anna Lewis. *George P. Putnam, New York.*

Mrs. Lewis acquired, almost immediately upon her literary *début*, a reputation of which any American poetess might be proud, and has since steadily and very rapidly advanced in the public estimation, both in securing the voice of the *many*, and in winning the hearts of the few whose appreciation a poet could alone desire, the author of "Florence," of "Zenel," of "The Bride of Guayaquil," of "The Forsaken" and of "The Child of the Sea," has been pre-eminently *successful*. Mr. Willis, Mr. Bryant and many others who hold the highest rank in our literary Republic, have not only felt but cordially expressed their sense of her genius. If *laudari a laudatis* be grateful to the soul of a poet, then Mrs. Lewis has had abundant reason to be happy and proud.

Our authoress is one of the youngest of American poetesses, and gave indication, at a very early age, of the powers she has since so strikingly and fully manifested. The first poetical effort, however, which brought her name very especially before the eye of the public, was "The Ruins of Palenque" which appeared originally in "The New World." This poem, which was extensively copied, is based on a passage in Stephens' "Travels in Central America." In 1844 the Appletons published, at New York, her "Records of the Heart," a large edition of which was soon exhausted. In 1846 appeared, in "The Democratic Review," her "Broken Heart," a poem in three cantos; since which she has given to the world a number of minor compositions, chiefly poetical, through the medium of various periodical works—among which the principal are the Democratic and American Reviews. Her last, longest, and beyond all question her most meritorious production, however, is that which Mr. Putnam has just issued and which forms the heading of the present hurried critique.

With the exception, perhaps, of "The Broken Heart," (which forms a portion of the volume now before us) the best of Mrs. Lewis' earlier poems are included, for the most part, in "The Records of the Heart." "Florence" is the opening composition in that collection; and is strongly characteristic—embodying nearly all the author's peculiarities of subject, manner, and turn of thought. It is a tale of fervid romance, instinct with the poetic sentiment and spirit, although neither so accurately finished nor so elaborate as some of her late productions. "Laone," "Melpomene," "Zenel," "The Bride of Guayaquil" and "The Last Hour of Sappho," are the most important of the remaining poems in the volume. They all breathe, however, the same spirit and are distinguished by the glow, the enthusiasm, the dreamy romance and apparent (or perhaps real) *abandon* of expression. To quote individual passages from poems so long as are all those just mentioned, would be to render the author a disservice—but we will make our readers *amende* by the citation of two of her shorter pieces—each exquisite in a different way.

TO E.

Thou'rt gone from this cold world of ours,
A resident above—
An angel midst unfading flowers
And songs of changeless love;
And com'st no more at eventide
To lay thy hand in mine,
With smiles to cheer our fire-side,
And bid me not repine;
And yet, lost one, thou art to me
More than the living all can be—
A light that shines from Heaven afar,
My morning and my evening star.

I ne'er shall hear again on Earth
Thy footstep's blithesome bound,
Nor meet thee by the parent hearth
When there we kneel around:—
No! nevermore shall see below
Beloved, thy form so fair,
Thy lily cheek and snowy brow—
Thy wealth of golden hair;
And yet, lost one, thou art to me
More than the living all can be—
A light that shines from Heaven afar,
My morning and my evening star.

Around me—near me—every where
I hear thy angel voice—
Sweet accents from a viewless sphere,
Bidding my heart rejoice.
At morn or eve—in vale or grove—
Where'er my footsteps tend—
Down from thy starry realms above
Thy meek eyes on me bend.
And thus, lost one, thou art to me
More than the living all can be—
A light that shines from Heaven afar,
My morning and my evening star.

There must be something more than ordinarily impressive, both in the sentiment and expression, as well as in the cadence, of a *refrain*, to enable us to admire it, or even to tolerate it, unaltered in its phraseology, through the whole of even a brief poem. We must therefore consider the lines "And thus, lost one," &c., &c., as essentially poetical; and *they are*. Throughout the whole composition there is a sustained and quiet dignity which is very impressive. But in terse, natural, passionate expression they are not to be compared with

## THE FORSAKEN.

It hath been said for all who die
There is a tear—
Some pining, bleeding heart to sigh
O'er every bier:—
But, in that hour of pain and dread,
Who will draw near
Around my humble couch and shed
One farewell tear?

Who watch life's dim departing ray
In deep despair,
And soothe my spirit on its way
With holy prayer?
What mourner round my bier will come
"In weeds of wo,"
And follow me to my long home
Solemn and slow?

When lying on my clayey bed
In icy sleep,
Who there by pure affection led
Will come and weep—

By the pale moon implant the rose
Upon my breast,
And bid it cheer my dark repose —
My lowly rest !

*Could I but know when I am sleeping*
*Low in the ground,*
*One faithful heart would there be keeping*
*Watch all night round,*
*As if some gem lay shrined beneath*
*That sod's cold gloom,*
*'Twould mitigate the pangs of death*
*And light the tomb.*

*Yes ! in that hour if I could feel,*
*From halls of glee*
*And Beauty's presence, one would steal*
*In secrecy,*
*And come and sit and weep by me*
In night's deep noon —
Oh, I would ask of Memory
No other boon !

But ah ! a lonelier fate is mine —
A deeper wo !
From all I love in youth's sweet prime
I soon must go —
*Draw round me my cold robes of white*
*In some dark spot,*
*To sleep through Death's long dreamless night*
*Lone and forgot.*

We can never speak or think of these lines without enthusiasm. They are supremely beautiful in their *natural* pathos. The passages italicised fill us with a shuddering delight in which we recognize the earnest power of the poet. This poem could not have been written without first being profoundly—despairingly—*felt*.

The "Child of the Sea" is a tale of romantic adventure—of love, sorrow and crime. It most fully exemplifies the peculiar tone of the author's mind—its *romance* first—its enthusiasm—its *abandon*. It is more skilfully executed, however,—better versified and more artistically constructed as a tale, than "Florence" or any other similar narrative by this author. The story is

deeply interesting—full of adventure, passion and imagination. It would not be doing Mrs. Lewis justice to give any digest of the story; and we must content ourselves with a merely general expression of admiration, and the citation of some passages at random.

## CRIME.

Oh Crime! thou mayst escape the Laws of Earth;
Mayst trample on the hearts of Love and Worth;
Imbrue thy hideous hands in human blood,
Remorseless as within the limpid flood,
The priceless mines of Ophir mayst unfold,
And clothe thy ghastly form in glowing gold—
The brightest gems from coral caves upcast;
But Heaven's avenging hand will seek thee out at last!

## DEATH.

Death touched his heart, and every pulse grew still,
Immovable, and stark, and coldly chill,
As ice that clings around the Boreal Pole;
The last warm spark that played around his soul
Was quenched. Vitality forever flown,
And like a frigid monument of stone,
Prostrate he fell, a senseless, lifeless clod,
Unwept on Earth—an outcast from his God—
A foe to Virtue—to mankind a curse—
A slave to Crime—the Victim of Remorse.

## LOVE AND MADNESS.

Ye Powers! that rule the destinies of men!
By some swift blow, obliterate my pain!
My brain is maddened with revengeful Ire,
My heart encompassed by the scorpion's fire.
Angel of Beauty! Virtue deified
On Earth! yet not to earthly things allied!
Thou art too beautiful for mortal touch—
For this vile orb, Heaven ne'er created such—
Thou art the fair Redeemer of my heart:
All sinful thoughts thy presence bade depart—
Heaven cannot fathom all my Love for thee—
'Tis pure—'tis boundless as Eternity!